

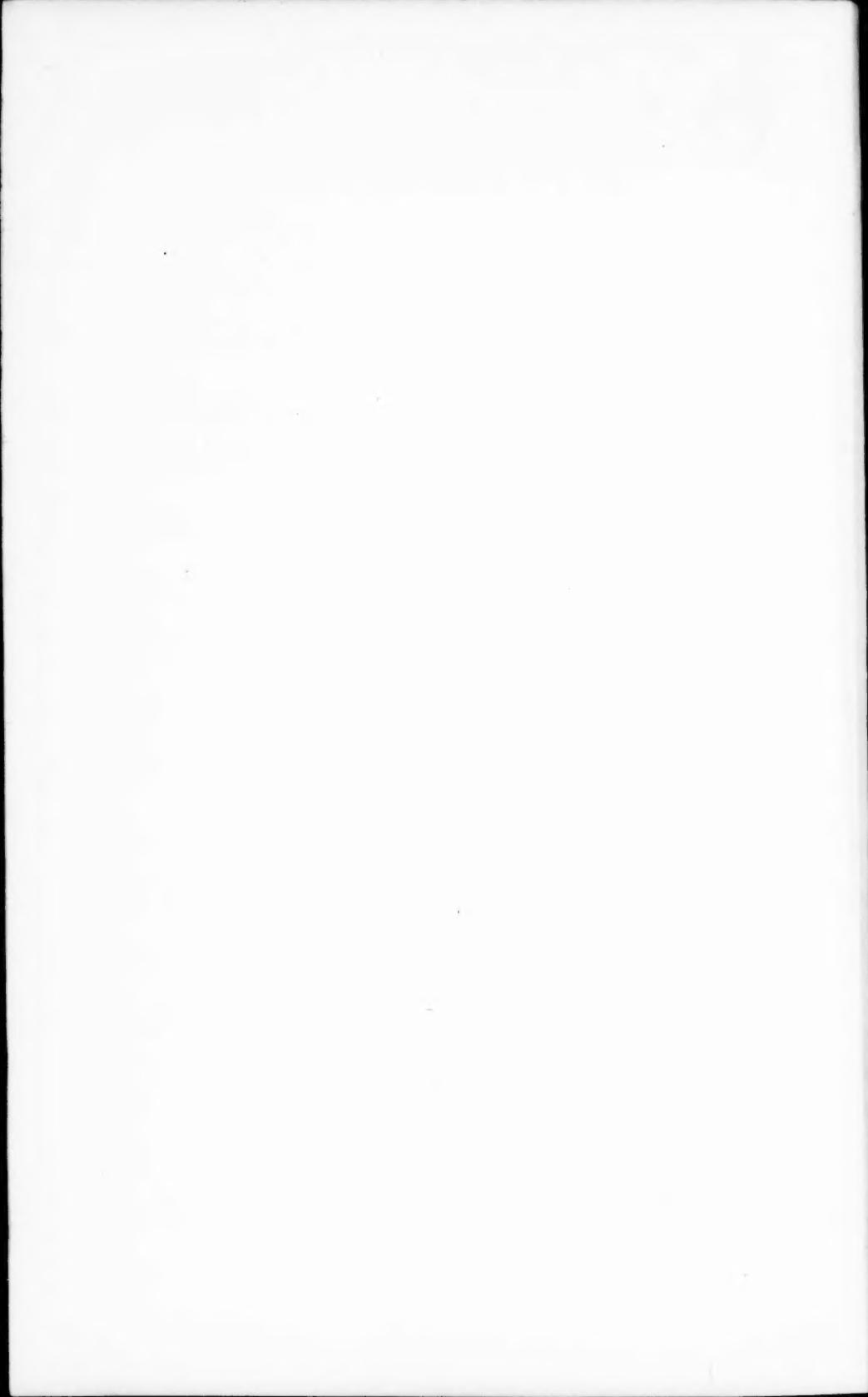
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JOURNAL *of* FARM ECONOMICS

VOL. X

JANUARY, 1928

No. 1

WHICH DOES AGRICULTURE NEED—READJUSTMENT OR LEGISLATION?¹

G. F. WARREN

CORNELL UNIVERSITY

Statistical evidence indicates that we are in the eighth year of the most serious agricultural depression ever known in the United States. The depression involves primarily the producers of staple foods.

A very large amount of adjusting to the situation has been done by farmers and some valuable legislation has been passed, but much remains to be done. Before any intelligent discussion of readjustment can be made, the causes of the depression, its probable duration, and the amount of adjusting that has been done must be known. There is no general agreement on these points.

For a number of years, there was considerable doubt in the minds of the majority of the urban dwellers as to whether any depression existed; and a number of economists wrote articles to prove that there was none. Each year, the popular urban opinion has been that the depression was over or would be over soon. I believe that the majority of economists have shared this opinion. The fact that this subject appears on the program in 1927 rather than in the winter of 1920 suggests that this may be true. The Association of Land Grant Colleges and Universities appointed a committee to consider the agricultural situation in the summer of 1927, not in the summer of 1921.

¹ This paper was read at the eighteenth annual meeting of the American Farm Economic Association at Washington, D.C., at a joint session with the American Economic Association, December, 1927.

There is even less agreement as to the causes of the depression. The majority opinion places overproduction as the primary cause of the difficulty. This point of view was ably presented by Dr. Nourse a year ago.² He particularly emphasized the rôle of improved technological processes, and was so effective that one of the members stated that the discussion should have been entitled the "pressure of food supply on population." Some of those who take this point of view have come to the conclusion that the situation will continue indefinitely.

The view that the depression is due to a lack of demand is held by a considerable number of persons. In the *Journal of Political Economy*, Hansen states: "It is difficult to see that the low purchasing power of farm products in 1920-1922 can be attributed either to the European market or to overproduction. The explanation is to be found rather in the failure of *domestic demand*. There was indeed a surplus that had to be disposed of in the foreign market, but the surplus was caused not by overproduction, but by the demand situation in the home market. Europe, in spite of the post-war situation, was able to absorb a much larger quantity of our products than before the war. It is true that an exceptionally low price was required to induce Europe to take these quantities, but it must not be forgotten that a correspondingly low price prevailed in the United States."³

Some persons who are less acquainted with the facts attribute the depression to land speculation.

Some believe that the trouble is due to low demand in Europe. Sering, of the University of Berlin,⁴ states: "According to an incontrovertible economic law the purchasing power of the ultimate buyer determines the price of any given quantity of goods available for consumption. Among all peoples dependent on agricultural imports the German is the most impoverished. The German worker was then the ultimate buyer of grain and meat products, and the

² Nourse, E. G., *Outlook for agriculture*. This Journal, January, 1927 (Vol. IX, No. 1), p. 21.

³ Hansen, A. H., *The effect of price fluctuations on agriculture*. *Journal of Political Economy*, Vol. 33, No. 2, p. 211, April, 1925.

⁴ Sering, M. *International Price Movements and the Condition of Agriculture in Non-Tropical Countries*, p. 26, 1927.

market was determined by his effective demand, which in turn was determined by how much of his small income he could spend for food."

A minority, to which I belong, and which I believe is increasing in numbers, think that they have ample statistical evidence to prove that the depression is due primarily to the fact that, when prices fall, wages fall less rapidly, leaving freight rates and other distributing charges and taxes high. Therefore, in an industry with a slow turnover, a prolonged depression is an inevitable consequence of financial deflation.

If consumers take the supply of any given product at prices which bear their usual ratio to prices of other things, there is no reason for assuming that either supply or demand is out of adjustment. If any item in the cost of living is low relative to other items, it is reasonable to assume that the supply is high or that the demand is low.

In June, 1917, the cost of living was 38 per cent above pre-war, and retail prices of American-grown food were 65 per cent above (table 1). A shortage of food is indicated.

Table 1. RETAIL PRICES OF FOOD AND THE COST OF LIVING

	1910-	June	June	June
	1914	1917	1922	1927
Retail prices of food ¹	100	165	152	172
Cost of living ²	100	138	167	171

¹ Warren, G. F. and Pearson, F. A. *The Agricultural Situation. FARM ECONOMICS*, No. 42, p. 616, February, 1927.

² Snyder, C. *Business Cycles and Business Measurements*, p. 290, 1927. Data for 1927 furnished by letter.

In June, 1922, the cost of living averaged 67 per cent and retail prices of food 52 per cent above pre-war. This suggests that the supply of food was high relative to other items in the cost of living. This may have been due to a surplus of food or to a shortage of other things such as houses. It was doubtless due to both.

In June, 1927, the cost of living was 71 per cent above pre-war, whereas food was retailing at 72 per cent above. No material surplus of food is indicated.

In primitive society, one of the most important effects of financial inflation was the advantage it gave debtors at

the expense of those who lent the money; and one of the most important effects of deflation was the advantage it gave lenders at the expense of those who borrowed. In such a society, a very large part of the wants of farm families were supplied by themselves or by their neighbors.

In present day society, wants are largely supplied by purchases made with money obtained from sales to persons in distant markets. Governments perform more functions, hence taxes are important. Under such conditions, the major injurious effects of inflation and deflation are the results of the lag in wage adjustments which cause a lag in many other things, such as freights and other handling charges and taxes; and which, in general, affect the production of wealth even more seriously than its distribution. Because of the slow turnover in agriculture, this industry suffers more, and for a longer period, when deflation occurs, than is the case with most other industries.

The consumers' prices for farm products in any given year have to be such that consumers will take the year's output. The only alternatives are to allow a part of the crop to rot, or carry over a portion of it into the next year. The possibilities of carrying over any material percentage of the crop from one year to another are very limited. No farmer wants to throw away his crop if he can get enough to pay for hauling it to the railroad.

Since the consumers' price is practically determined by the supply of the year, and since handling charges are usually at least as high per bushel for a large crop as for a small one,⁵ the farmer's price becomes the retail price less all the costs of assembling, transporting, processing, and distributing.

When prices rise, farm prices rise disproportionately to retail prices, because wages lag. Since wages lag, freights and other handling charges are low compared with retail prices. Retail prices of food in the United States, earnings of factory workers, and prices paid to farmers for food products are shown in Fig. 1 and Table 2.

⁵ In a publication now in press, large amounts of statistical data are given which show that the spread between the farm and retail price per unit of product is greater in years when the retail price is low than in years when it is high. This agrees with a principle of economic theory not generally recognized.

In June, 1917, food was retailing in American cities at 65 per cent above the five-year pre-war average, but earnings of factory workers were only 31 per cent above pre-war.

Freight rates on 50 farm products were only 1 per cent⁶ above the pre-war level. Consequently farmers received 102 per cent above pre-war for food products.

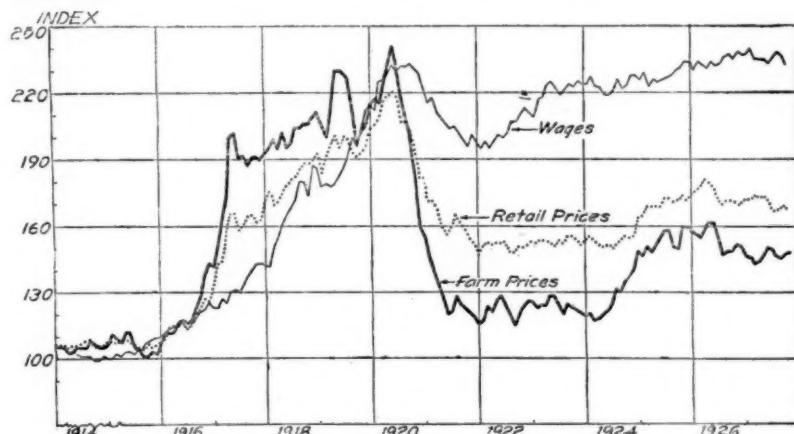


FIG. 1. INDEX NUMBERS OF PRICES OF FOOD AND EARNINGS OF NEW YORK STATE FACTORY WORKERS, 1910-14=100

When financial inflation occurs, distributing charges rise slowly, therefore, farm prices are high compared with retail prices. When deflation occurs, distributing charges remain high and farm prices are very low compared with retail prices. These relationships are the most important effect of inflation and deflation on agriculture.

Table 2. FARM AND RETAIL PRICES OF AMERICAN-GROWN FOOD, AND EARNINGS OF NEW YORK FACTORY WORKERS¹

	1910- 1914	June 1917	June 1922	June 1927
Farm prices.....	100	202	128	149
Retail prices.....	100	165	152	172
Earnings of factory workers.....	100	131	201	235

¹ Warren, G. F. and Pearson, F. A. The Agricultural Situation. *FARM ECONOMICS*, No. 42, p. 616, February, 1927.

When commodity prices fell, wages remained high, and freight rates actually increased, so that an abnormally small part of the retail price reached the farmer. In June,

⁶ Gabriel, H. S. Index numbers of freight rates and their relation to agricultural prices and production. *Cornell Univ. Agr. Exp. Sta. Bul.* 446, p. 18, December, 1925.

1922, food was retailing at 52 per cent above pre-war, but farmers received only 28 per cent above pre-war. Farm prices declined from 102 to 28 per cent above pre-war, although retail prices declined only 13 points.

In June, 1927, food retailed in the United States at 72 per cent above pre-war, but farmers received only 49 per cent above pre-war prices.

A similar relationship between farm and retail prices is shown in England. According to the Ministry of Labor, food retailed in England, in 1926, at 72 per cent above the

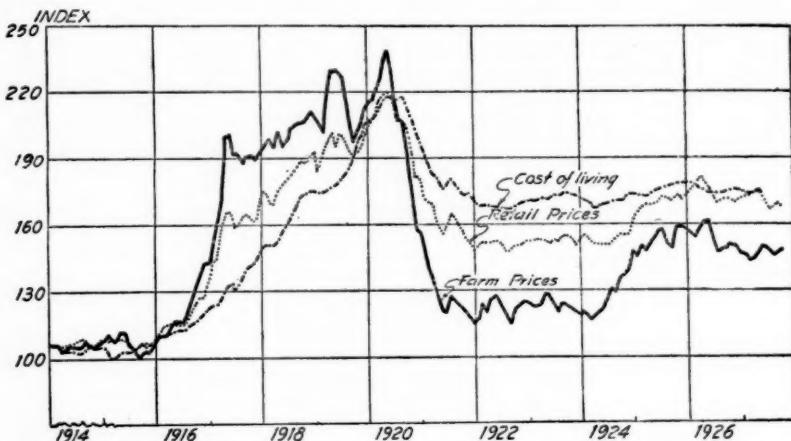


FIG. 2. INDEX NUMBERS OF PRICES OF FOOD AND THE COST OF LIVING, 1914-1927.

The amount by which retail food prices are below the cost of living may be taken as a measure of the overproduction of food. The amount by which farm prices are below their usual ratio to retail prices is a measure of price disparity brought about by the failure of distributing charges to decline when prices fall. The present low farm prices of food are due to the latter cause rather than to overproduction.

cost in July, 1914. According to the Ministry of Agriculture, farmers received only 50 per cent above pre-war prices.

I see no justification for assuming that the high ratio of farm prices to retail prices in 1917 was primarily due to a shortage of food. The retail prices were a measure of food shortage. Nor do I see any reason for considering the

present low ratio of farm prices to retail prices as evidence of a surplus of food.

It is commonly assumed that if farm prices are low, it must be due to high supply or low demand. It may be due to abnormally high distributing charges, a condition that always exists when deflation occurs. The cost of living in the United States, and the retail prices and farm prices of food are shown in Fig. 2. The amount by which the retail price of food was lower than the cost of living suggests the portion of the depression due to overproduction. The amount by which the farm price differs from the retail price is a measure of price discrepancy due to the failure of freights and distributing charges to decline.

Estimates of the proportion of the agricultural depression due to increased interest payments, tax payments, overproduction, and discrepancy between farm and retail prices are shown in Table 3. According to these estimates, half of the agricultural depression in 1921 was attributable

TABLE 3. ESTIMATED RELATIVE IMPORTANCE OF VARIOUS FACTORS IN THE AGRICULTURAL DEPRESSION OF FOOD PRODUCERS FOR 1921 AND 1926.

Based on prices for December 1

Factors	Loss to Producers			
	1921		1926	
	Million dollars	Per cent	Million dollars	Per cent
Increased interest payments	\$145	4	145	7
Increased tax payments	353	10	353	18
Over-production	1,170	34	400	20
Discrepancy in farm and retail prices	1,760	52	1,080	55
Total	\$3,428	100	\$1,978	100

¹ Since food production represents about 75 per cent of the total output of agriculture, 75 per cent of the total increase in interest and tax payments is used to represent farms of food producers.

to high distributing charges, 10 per cent to increased tax payments, about one-third to overproduction, and only 4 per cent to increased interest payments. Of course, such estimates cannot be exact, but the differences are so striking

that even a large error would have little effect on the conclusions. Details of the method of estimating have been published elsewhere.⁷

Conditions improved somewhat, and in 1926, only about one-fifth of the depression could be attributed to overproduction. Nearly three-fourths is attributable to taxes and high distributing charges.

All available figures indicate a material decrease in the provision for future food production in the United States.

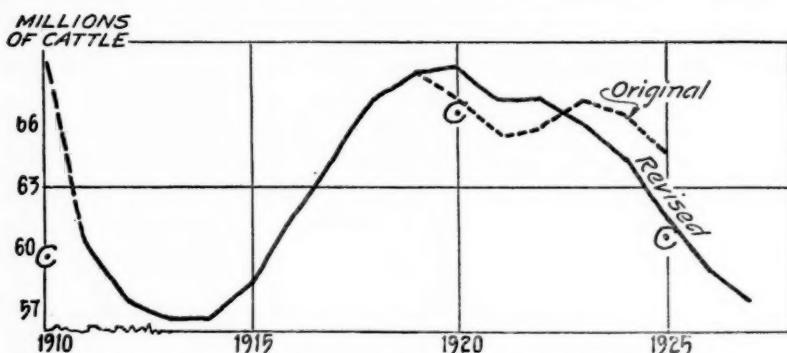


FIG. 3. NUMBER OF CATTLE IN THE UNITED STATES AS REPORTED BY THE CENSUS AND BY THE DEPARTMENT OF AGRICULTURE

The original estimates of the Department of Agriculture are represented by the dotted lines, and the revised figures by the solid lines. Census figures are represented by C. (The original estimates of the Department of Agriculture were higher than the Census in each year. The Census data for 1910 are estimates for January 1 from Census of 1920, Vol. V. p. 550.)

Both agencies agree that there was a striking decline in the number of cattle from 1920 to 1925, and the agricultural estimates indicate that the decline is continuing.

According to the Bureau of the Census, the acreage of food and feed crops⁸ increased 20 per cent from 1909 to 1919; and decreased 10 per cent from 1919 to 1924, leaving the 1924 acreage 8 per cent above the acreage 15 years previous. In this period population increased 24 per cent. The number

⁷ Warren, G. F. and Pearson, F. A. The Agricultural Situation. *FARM ECONOMICS*, No. 42, pp. 603-618, February, 1927.

⁸ The list of crops included is as follows: corn sorghum, hay, wheat, oats, barley, rye, buckwheat, velvet beans, rice, beans, peanuts, sorghum syrup, potatoes, sweet potatoes, sugar beets, sugar cane, apples (bearing), apples (not bearing), peaches, pears, plums and prunes, grapes, oranges, grape fruit, lemons, strawberries, cabbages, cantaloupes and muskmelons, lettuce, onions, sweet corn, tomatoes, watermelons.

of cattle increased 12 per cent, from 1910 to 1920, but decreased 9 per cent in the first five years of the agricultural depression. Hogs increased 13 per cent from 1910 to 1920, and decreased 14 per cent in the following five years.

Some persons believe that the Department of Agriculture figures are more accurate than those of the Census. The acreage of food and feed crops,⁹ as reported by the United

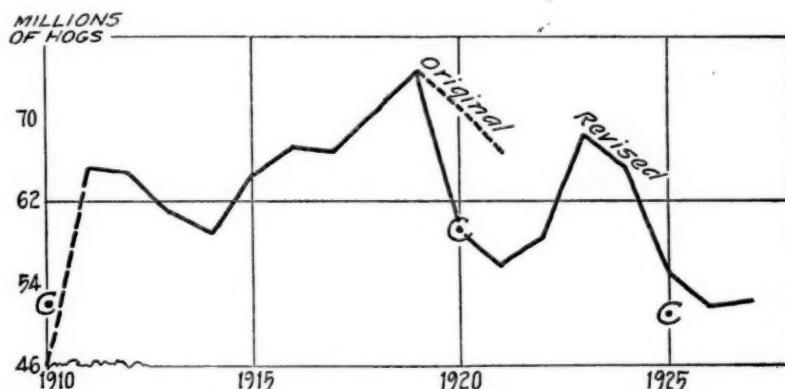


FIG. 4. NUMBER OF HOGS IN THE UNITED STATES AS REPORTED BY THE CENSUS AND BY THE DEPARTMENT OF AGRICULTURE.

Original estimates of the Department of Agriculture are represented by the dotted line, and final estimates by the solid line. Census figures are represented by C. (Census data for 1910 are estimates for January 1, from Census of 1920, Vol. V. p. 587.)

The original Department of Agriculture estimates were much lower than the Census in 1910 and much higher in 1920. Both agencies agree that the number has been strikingly reduced.

States Department of Agriculture, decreased 6 per cent from 1919 to 1924. The estimates for 1927 indicate an increase of 2 per cent since 1924. The estimated area of the six grain crops in 1927 is 6 per cent less than the area in 1919.

The decrease in the number of horses since 1919 has reduced the area necessary to raise food and feed crops by about 6 per cent. In spite of the growing population, the

⁹ The list of crops included are wheat, rye, corn, oats, barley, rice, buckwheat, potatoes, beans, hay, and sugar beets.

census figures indicate that the decrease in the food and feed crops area has been greater than 6 per cent.

Many figures on agricultural acreage and production include cotton. Cotton and lumber are in an entirely different class from food products. The cheaper food is, the greater the demand for cotton and lumber. If the production and prices of cotton and lumber are mixed with statistics of food production, confusion results.

The price of cotton from 1921 to 1927, inclusive, averaged 59 per cent above pre-war. The price received for food products averaged only 36 per cent above pre-war. The cotton acreage expanded and the area of food crops declined. The cotton acreage expanded 5 per cent from 1909 to 1919, and 16 per cent from 1919 to 1924. The expansion was due to prices. It occurred in the northern and western portions of the cotton belt. In these areas the agricultural depression has been mild compared with other areas. The contraction in such States as Georgia was due to the injurious effects of the boll weevil. Much of the poorer land in Georgia and neighboring States promises to go back to forest. This is primarily a boll weevil question.

It is absolutely essential that we determine which is the major cause of the depression before any intelligent discussion of adjustments, public or private, can be made, because the procedure in each case depends on the cause.

If the low farm prices are due to overproduction, the best interests of the public, as well as of the farmer, will be served if more farm land is thrown out of use, so as to reduce the production of farm products. If overproduction is the trouble, reduced production is to be encouraged.

Persons who hold this point of view are constantly reiterating the statement that if anything could be done to improve the price of farm products, it would do more harm than good because it would still further increase production when there is already too much. Low prices are desirable in order to force this adjustment as rapidly as possible.

The common statement that any price improvement would cause increased production of food is based on the naïve assumption that present prices would cause present production to continue. Government statistics indicate a

decline in food production, and an even greater decline in provision for future production. An increase in price does not necessarily result in an increase in production. It may result in a less rapid decrease than otherwise would occur.

If the low farm prices are due to low demand, reduced production is necessary, unless there is some means of bringing demand back to its normal basis. Some persons believe that this could be done by lowering the tariff, and that Europe would then sell us more manufactured goods and buy more food products. If this theory is correct, production should not be reduced unless all other remedies fail. It should be noted that for the past 7 years the physical volume of agricultural exports other than cotton has averaged 71 per cent above pre-war,¹⁰ and that, in general, exports were highest when the depression was most severe.

If the low farm prices are due to the failure of distributing charges to decline, a reduction in the farm output will result in a shortage of food.

One who believes that the present situation is due to overproduction welcomes reduced production as an inevitable and desirable solution.

One who believes that the present situation is due to the failure of distributing charges to decline, looks upon reduced production as one of the evil consequences of financial deflation, and anticipates a period of food shortage and recovery in agriculture. This does not mean starvation. It means a period like that from 1900 to 1914, when the rising cost of living was one of the serious public problems. Such a shortage has far reaching effects.

If this be true, any procedure that would reduce the disparity between the prices of farm products and the prices of other things, would tide over the situation and prevent reduced production from going so far as to cause a shortage at a later date. Any feasible method of improving prices would be worthy of serious consideration.

If the trouble is overproduction, large numbers of farmers should abandon their homes and occupations, and make

¹⁰ U. S. Department of Agriculture. Index numbers of agricultural exports. Foreign Crops and Markets, Vol. 15, No. 13, p. 427, September 26, 1927.

a new start in life. The poorer land in remaining farms should be used less intensively, or thrown out of use. The number of breeding animals should be reduced.

If the trouble is due to distributing charges, the individual farmer, who can do so, should try to find a way to weather the storm and be ready for the period when recovery occurs. He should keep expenses as low as possible, but keep the property in condition for future use. He should dispose of his old and inferior animals, but keep a fairly good stock of the young females so as to be ready when the tide turns. This policy with cattle has already been vindicated, as we now have a distinct shortage of both beef and dairy cattle, a shortage that promises to become more acute for several years.

Having inflated and deflated, the method of adjustment that is taking place is to reduce food production so that the shortage will cause retail prices to rise high enough so that the distributing charges can be paid and leave farmers a price that will sustain the industry. How long this will take is uncertain, but the result is certain.

Aside from emergency measures there are some things that can be done.

Freight rates on agricultural products are one of the important items in the cost of distribution that are regulated by the Government. In 1923-24 the class 1 railroads received nearly 20 per cent of their revenue from agricultural products, which represented only 11 per cent of the tonnage. A serious study should be made to determine what part of the necessary revenue of railroads should be obtained from products other than agriculture.

Our present taxation system absorbs an excessively high proportion of the income of agriculture. Our system of taxation developed when the business community was small. The economic unit has widened without a corresponding widening in the unit of taxation. For example, in New York State, about 32 per cent of the travel on dirt roads originates from farms and other unincorporated places in the townships, but these pay about two-thirds of the cost of such roads. Nearly half of the children educated in rural schools later go to cities and thus escape paying for their

education. The farmer helps to educate the city population.

Our system of taxation, based on estimated values rather than income, places a heavy burden on a business with a slow turnover. The total income of a farm family, including the reward for labor, unearned increment, and entrepreneur's profits, amounts to such a small sum that the taxes are becoming a heavy burden. Farmers can, and should be relieved by widening the basis of support for public institutions, and by raising a larger portion of the revenue through income taxes.

The Government is quite content to leave matters alone when the farmer is in distress. It is not content to leave matters alone when the consumer is in distress. Vast sums of public money have been spent creating farms and selling them to settlers at prices that would not pay the cost of reclamation, or, if the prices were high enough, the sums were not collected. I see no reason why the Federal Government should create farms, unless prices of farm products are such that the full cost of reclamation can be paid by the settler when he receives no more concessions than are received by farmers who improve land at their own expense.

Even before the war prices of farm products were fluctuating with increasing violence. This problem is an inevitable accompaniment of commercialized agriculture with high distributing charges. The problems of surpluses and shortages are becoming so acute that the National Government may well study the possibility of helping to solve this difficult question.

There are numerous other legislative acts that will aid, but substantially everything that has been done to relieve the situation has been done by individual farmers. The occasion should be used for obtaining desirable legislation of many kinds, but such legislation goes into effect so slowly that the farmer must look out for himself. He cannot hold his breath while the legislators are debating. A long time is required to prove that trouble exists, and an even longer time is necessary to reach a conclusion as to what to do about it. The experience in England in the de-

flation period following the Napoleonic Wars is typical. After 20 years of investigation by various committees, the final report stated: "the committee . . . have examined a great number of witnesses and collected a great many very important documents relating to the extent and causes of agricultural distress; but they have not agreed on any report. . . ."

Farmers have done much by means of co-operative associations. Co-operative credit through the Federal Land Banks has saved many farmers. Contrary to public opinion, these banks are co-operative, and not Federal. Only a little over 1 per cent of the capital is owned by the Federal Government and nearly 99 per cent by the borrowers.

The Federal Land Banks suffer by confusion with the Joint Stock Land Banks which are private enterprises. It is unfortunate for the Federal Land Banks that the same board supervises both systems. If both systems are to continue, legislation providing for a separate board for the Federal Land Banks would be desirable.

An enormous increase has occurred in co-operative buying and selling. Some mistakes have been made, but much has been accomplished in this way, and more will be.

We are passing through an agricultural revolution brought about by the internal combustion engine. This is, I believe, a greater revolution than the one that followed the invention of grain harvesting machinery. The pre-eminent problem on the farm today is to save labor. The greatest labor saving device on American farms is the automobile, which the farmers are wise enough to buy in spite of the advice of business men, bankers, and chambers of commerce. On most farms, the major use of the automobile is for business purposes. Most farmers buy business cars, and a very large percentage of them buy second-hand cars.

Some farmers have bought trucks, tractors, combined harvesters, or other machinery, unwisely, but an even larger number have not purchased such labor-saving equipment quickly enough.

Increased specialization in agriculture is taking place at a phenomenal rate—this again in spite of urban advice. It is in line with the longtime development of agriculture but is hastened by the economic crisis. Specialization is sometimes on one, but frequently is on two or three well-adapted products.

The policy of land settlement in this country has been to divide the land among as many people as possible. In most regions combination of farms began to be made as soon as settlement was completed. This double process has been occurring for a hundred years—the Government dividing the land into tracts too small for the family to use, and the farmers slowly and laboriously attempting to correct the mistake by combining farms to obtain an area large enough fully to employ a family. This movement is accentuated at the present time. Sometimes the additional land is purchased, sometimes the adjoining land is leased. The policy of providing family farms rather than estates was very fortunate, but the family farms should be large enough to employ a family.

Numerous other adjustments can be made by the individual farmers, but these are technical farm management problems which this audience would not care to discuss in detail at this time.

WHICH DOES AGRICULTURE NEED—READJUSTMENT OR LEGISLATION?

THE CASE FOR LEGISLATION¹

G. S. WEHRWEIN

INSTITUTE FOR RESEARCH IN LAND ECONOMICS AND PUBLIC UTILITIES

There are only a few people who are willing to leave the solution of the agricultural problem to natural laws. "*Laissez faire* is of the past," says the Business Men's Commission on Agriculture, "and the practical question is how far we will be driven in the other direction." Supply and demand, they say, "has been drastically disturbed by the industrial policy of the government."²

The question of legislative action resolves itself into two phases, (1) what can be done by legislation, and (2) what the dominant groups in our industrial life permit to be done. The industrial groups are now numerically stronger than the agricultural and can outvote the farmer. It is within their power to decide how much agriculture we shall have and what kind, insofar as legislation can decide this. Left to their own interests they will tend to select the kind and the amount that will give them food and raw materials at the lowest possible prices. Great Britain serves as an illustration. Great Britain could have much more land in crops, and a different kind of agriculture, if she chose to protect the farmers by a tariff. The *Report* of the Liberal Party frankly says that this is not "practical politics," and that no nation 80 per cent urban will willingly vote for higher food.³ So they seek a rather dubious solution in tenure reform and land nationalization.

The center of the agricultural problem lies in the fact that farm products sell on a lower level of prices than the products of industry. Agriculture suffers, and, conversely, industry prospers, because industry receives a good price for its products and obtains its food and raw materials at low prices. It is to the interest of the non-agricultural

¹This paper was read at the eighteenth annual meeting of the American Farm Economic Association at Washington, D.C., at a joint session with the American Economic Association, December, 1927.

²*The Condition of Agriculture in the United States and Measures for its Improvement.* National Industrial Conference Board and Chamber of Commerce of the United States of America. (1927) p. 11.

³*The Land and the Nation*, Hodder and Stoughton. (London) p. 192:433-435.

groups that this continue as long as possible. Warren and Pearson have estimated that increased taxes, interest, and the disparity between farm and retail prices have caused a transfer of 13 billions of dollars of wealth from the country to the city.⁴ It may be, as these authors say, that such a situation cannot continue indefinitely, but that is no reason why urban people should not desire to have it continue. The danger is that the pendulum will swing too far in the other direction, and that the last state of affairs will be worse than the first. That is the justification for public action, even from the self-interest standpoint of the consumer.

Granting the willingness of all interests to encourage agriculture to the same extent that industry is encouraged, it would seem that the nature of the industry should be carefully considered before we apply the remedy. Agriculture is in the class of the extractive industries, and it has been pointed out that these have certain peculiarities not found in manufacturing.⁵ Farmers are less able to combine for united action and are more helpless in making their demands effective. Agriculture is carried on by 6,400,000 independent competing units. Not only do the laws of cost and the improvements in technique operate differently in the extractive industries than in manufacturing, but the demand for extractive raw materials is not necessarily increased by a greater purchasing power of the people—it tends to increase in proportion to population, but may actually decline per capita in spite of greater wealth. Wheat and meat are examples.

There is often very little relation between effort and result. Corn yields per acre have varied for the United States as a whole from 17 to 32 bushels per acre, or almost 100 per cent. Imagine the demoralization in an automobile plant if the same effort and raw materials produced one million cars one year and two million the next, the volume of product being absolutely out of the control of the manufacturer. Before a satisfactory policy of encouragement can be

⁴ Warren, G. F. and Pearson, F. A. "What Ails Agriculture?" *Farm Journal*, November, 1927, p. 55.

⁵ Gould, M. David. "The Economic Riddle of the Day." *Magazine of Wall Street*, November 5, 1927.

adopted toward the various industries, it will be wise to classify them, note their strength and weaknesses, and their ability to help themselves. Aid and encouragement can then be extended in proportion to their needs, and in harmony with the characteristics of the industry.

In recognition of the characteristics of agriculture the first act of legislation should be the control of climatic surpluses. The objective here is to take off the market in a surplus year enough of the product to prevent an abnormal fall of prices, and to feed this surplus to the market when prices are much higher. It has been suggested by the Business Men's Commission on Agriculture that this should be done by private means. But it is doubtful whether private industry, not connected with agriculture, could be induced to do this. Perhaps more could be expected from powerful and well-financed farmers' co-operatives in this respect, if we had them. Meanwhile this function should be performed by some governmental body.

To bring about a readjustment of agriculture to the other elements of economic society, the price level of agricultural products must be brought up, or the price level of other products brought down, or both, assuming that "practical politics" will not interfere.

Let us consider the question of bringing up the level of farm prices. If low prices mean that there is an oversupply of farm products, they indicate that an adjustment of supply to demand is necessary. In other words, we have more farmers, more agricultural land and a greater intensity of cultivation than are necessary. Adjustment has been going on within the farms to some extent, but mostly by the dismantling of the industry through the abandonment of farms and the movement of farmers to the city. The depression has been in existence for almost eight years, but the adjustment is not yet made, for the two price levels are still far apart.

The least that ought to be expected of public action is to remove those causes which have over-stimulated agriculture. During the World War agriculture was expanded beyond the normal by appeals to patriotism, and by guaranteed prices. Little was done by public action to help agri-

culture back to normalcy. Some industries were helped in making the transition, others given further protection, and still others, having shifted to the manufacture of war materials, found an undersupplied market for their peacetime goods, and needed no help.

But the disarrangement of agriculture by the war, and the readjustment to peacetime conditions are now past history; little can be done at the present time. That problem has been merged with the larger problem of the proportionality between agriculture and other industries.

Our past agrarian policies have been responsible for a continuous over-expansion of agriculture. In the first place we have instituted a larger and more efficient machinery for the purpose of improving the technique of agriculture and increasing production than we realize. Not only have we the agricultural colleges to teach students in residence, but by bulletins, the press, the extension service, the regulatory work of the departments of agriculture, club work, county agents and other means, we have carried the knowledge of better production to the farmer; and, in fact, we have forced it upon him. Private agencies, such as the railroads, machinery manufacturers and chambers of commerce have similar methods of "reaching the farmer." If farmers fail to support a county agent, very often the Chamber of Commerce will. This has redounded to the benefit of farmers in helping them to produce at a lower cost, but more to consumers' benefit in giving them a lower cost of living. It is not advocated that this form of service should be stopped, but certainly much can be done by shifting the emphasis to marketing, distribution and land utilization. Perhaps some of the margin between retail prices and farm prices could be wiped out with a better knowledge of marketing.

Secondly, we have by our land policies, local, State and Federal, stimulated the agricultural settlement of lands. Almost all of the States outside of the Corn Belt have immigration officials, supported by taxes, whose business is to attract more farmers and bring land into agricultural use. Where no official bodies exist, semi-official chambers of commerce often do this work with the sanction of the State. Public agencies such as the agricultural colleges and county

agents are actively enlisted to help the movement, or at least to help the settlers, after they have been placed on the land. This is not meant as a criticism of the functions of the colleges, but merely to show how some forty states and Canada have adopted the same policies to promote the expansion of agriculture.

The Federal Government is still operating under land laws that were suitable to a self-sufficing agriculture, but out of place in a commercial agriculture. The homestead laws still invite settlement. Other branches of the Government are actively engaged in reclamation in spite of the agricultural depression. It is even recommended that reclamation be extended to the drainable lands of the South. The objection that such a policy would aggravate the "surplus problem" is met by the statement that in 1926 the crops grown on the Government reclamation projects amounted to but 0.7 per cent of the entire value of farm products.⁶ Contrast this with the policy of the Government in certain other industries. By the immigration laws and the tariff we help to create an artificial scarcity which results in higher prices for those benefited; in agriculture, public policy creates more farms to compete with the farms already established, adding to, if not creating, an abundance which means low prices to those engaged in farming.

In fact, we have gone a step farther. We have actually misdirected land utilization by bringing submarginal land into use for agriculture instead of encouraging its use for grazing or forestry. In this respect we have been not merely negligent, but actually criminal.

Therefore, there should be a reversal of all public action aimed at bringing more land into agricultural use. Since most of this potential agricultural land would be better utilized for forestry, recreational land, flood control, or grazing, either permanently or temporarily, it would seem common sense to put land to these uses. But this will mean constructive legislation, changing taxation systems, revising state immigration policies and the revamping of reclamation policies. Federal land laws should be recast to suit modern conditions. Lands still in possession of the Federal

* House Doc. 765, Part 1, 69th Congress, 2nd Session, pp. 7-8.

and State Governments should be handled in conformity with the needs of present day agriculture. All agencies engaged in land selling should be placed under public supervision to prevent the misdirection of settlement, and the bringing of submarginal land into agricultural use.⁷

To take a more positive step, it will be advisable for the Government to take land now in the wrong use and encourage its utilization by private agencies, for forestry and other purposes, or to buy such land outright for reforestation, or even for holding the land until the time comes when it will be needed. If we could imagine a policy of restriction, of actual holding back of land for agricultural use, we would create an artificial scarcity for the farmer similar to that created for the benefit of some other occupations. Immigration laws have operated in exactly this way; if the people will now control immigration from heaven and the law will control immigration from abroad, labor will never lose its strategic position. Public agencies, in the light of present conditions, can well afford to cease all propaganda for the "back to the land" movement, and discourage its use by private agencies. Ever since the days of "free land" we have been frightening ourselves by the specter of a starving nation. As one farm editor has aptly said, the worst enemy of the farmer is the man who is always telling us we are going to starve.

Instead of a "back to the land" type of education, we ought to have an intelligent system of vocational guidance that will help direct those who ought to go to the city to find their proper occupation, and those who ought to go to the farms to get a start.

None of these policies will be without cost to the consumer. The loss of farms and farmers during the past eight years, the curtailment of the expansion of agriculture, the decrease in intensity of cultivation, the removal of submarginal farms, all mean fewer farm products and higher prices. But if control of production takes place at the lower margin of production by the shifting of this land

⁷ Wehrwein, G. S. "A Land Policy as a Part of an Agriculture Program," *Journal of Farm Economics*, July, 1925; Olsen, Nils A. "Agriculture Needs a New Land Policy," *Journal of Farm Economics*, October, 1927; Gray, L. C., et al. "The Utilization of our Lands for Crops, Pasture and Forests," *U. S. Dept. of Agriculture Yearbook*, 1923, pp. 502-506.

into other uses, it may take a surprisingly small readjustment to get rid of the unprofitable surplus production, raise prices moderately, and restore prosperity to the good farmer on good land. The test of the sincerity of those who want to restore prosperity to agriculture will be shown by their willingness to pay more for the farmers' products. On the other hand, the disparity between farm prices and retail prices indicates that adjustments can be made within the city itself, which will mean but a small increase in the price to the consumer, even if farm prices are raised considerably.

The second angle of attack lies in the direction of lowering the costs of farming and the costs of living on farms. Farmers could afford to produce at present prices, if their costs could be reduced sufficiently. Among the costs which now bear heavily on agriculture, and which are the result of public action, are taxes. It is frequently said that since the farmers' taxes are largely local taxes they are of his own making, and that he can take away what he has voted upon himself. This is far from correct. Even with the burden of taxes he is now paying, he does not have the schools, hospitals, recreational facilities, etc., which the city dweller enjoys with a lower burden of taxes. He cannot reduce taxes very well without denying himself and his children of their just share of education and other public benefits. The taxation system needs to be overhauled with respect to all of the extractive industries, lumbering, mining, agriculture. Furthermore, the burden should be shifted to larger units of government.

Sufficient rural credit has already been provided through public action with exception, perhaps, of credit for marketing and co-operative institutions. This need not be discussed at this time. Transportation costs in the form of lower freight rates and improved waterways would also be helpful, but have their limitations.

If the bringing of the two levels together is not to be accomplished by raising of the agricultural price level, the other alternative is to lower the price level of industry. It is generally admitted that the tariff is responsible to a large extent for this level. Its influence is more subtle than can

be expressed in statements such as "55 out of 172 articles representing three-fourths of the expenditures of farmers are on the free list." It is significant that the Business Men's Commission on Agriculture went on record as saying "that no consideration of the farmers' problem can be adequate without a discussion of the tariff policy in its bearings upon the prosperity of the entire nation."⁸ No one can state offhand what such an adjustment should involve, but there is no doubt but that it presents an effective method of aiding agriculture, if the nation chooses to use it. If, on the other hand, the tariff is to remain just where it is, means may have to be found for giving to the farmer the same protective legislation now enjoyed by other industries, but in a form suitable to the characteristics of the industry.

So far we have discussed mainly the removal of legislation which prevents the readjustment of the price levels. The recovery, however, could be hastened by more positive action. One of the methods suggested is a direct bounty on agricultural products, and another the use of the debenture plan. Both of them would subsidize agriculture by taking money out of the Federal Treasury, or preventing it from reaching the Treasury. By inducing exportation, goods are sent out of the country, and an artificial scarcity is produced at home, raising the price to the domestic consumer. There is nothing "economically unsound" about either of these proposals; both of them have been used, or are in use, in various countries, and accomplish their purpose. A still more positive measure is the export plan of the McNary-Haugen bill.

The chief criticism of all the positive acts to aid agriculture by creating an artificial scarcity at home, is that they will tend to stimulate the production of the very products which should be curtailed. Combined with the present policy of forcing land into agricultural use the two forces would work in the same direction, namely, that of increased production where no additional production was wanted. They could be used only as emergency measures and abolished as soon as there were indications that the emergency ceases to exist.

⁸ *Op. cit.*, p. 11.

DISCUSSION BY JOS. S. DAVIS FOOD RESEARCH INSTITUTE

Professors Warren and Wehrwein have given us two illuminating and stimulating papers. In discussing them, however, I wish to keep the attention focused on the question before the Round Table: "Which does agriculture need—readjustment or legislation?" Professor Wehrwein, without denying the need for readjustment, confined his paper largely to the case for legislation, although he touched but lightly upon the most controversial subjects. Professor Warren admits the need for both readjustment and legislation, but he does not clearly make a strong case for either. Indeed, most of his paper is on a different topic. If I understand him aright, legislation is desirable, but it is so long in coming that the farmer had better not count upon it; readjustment by reducing farms, acreage, and production is uncalled for, unwholesome, and even dangerous in threatening a food shortage; the cause of the depression is predominantly a lag in the decline of wages, taxes, handling charges, following deflation; the farmer should modify his farm management—in ways not described,—tighten his belt, and grimly, watchfully bide his time until the tide has reached its ebb and gradually turns. According to Professor Warren, it is idle to discuss readjustment until we can predict the duration of the depression, yet he made no forecast and gave us no basis for deriving one. From a recognized master of farm economics, this seems a surprising counsel of despair.

The subject before us is a serious one. I confess to feeling that the principal speakers have not fully come to grips with it. We need a sharper view of the meaning of readjustment and legislation than either speaker has given, and also a clearer notion of the present status of agriculture.

Readjustment and legislation are not mutually exclusive, nor do they exhaust the possibilities of the case. We may have readjustment with or without legislation. There is absolutely no question, I believe, that substantial readjustments in American agriculture have been absolutely essential since the war, and that no legislation could have made them unnecessary. I firmly believe also that the process of readjustment must continue, legislation or no legislation. The question is, what types of readjustment are wise and wholesome, from the standpoint of the individual farmer and of the national interest; further, by what legislation, if any, can certain readjustments be rendered unnecessary, others promoted, and still others mitigated in their painful consequences; and what legislation should be avoided because it would bring about readjustments creating new problems greater than those which are solved. Moreover, as to legislation, we must realize that legislation of itself accomplishes little or nothing; what is vital is the action under the legislation. And in discussing either legislation or action under it, we need to consider not merely the objectives, but machinery, ways, and means, of which Doctor Wehrwein has said but little. It is a question not merely of *what* but of *how*.

As to the present status of agriculture, it is at once insufficient and misleading to say simply that "We are in the eighth year of the most serious agricultural depression ever known in the United States." There was in

1920-21 an acute agricultural crisis. It was followed by a period of severe depression, in which considerable progress in recovery was made, partly with the aid of legislation, chiefly by readjustment, including liquidation. This in turn was followed by a period of moderate depression, with acute distress only among certain groups each year. This year acute distress is narrowly limited, but what we think of as normal prosperity is not yet at hand. According to some serious students of the situation, the purchasing power of the farmers' current income has averaged about as high in the past three or four crop years as it did in the five years before the war; but in the recent period, unlike the former one, the farmer has experienced declines in land values instead of appreciation, and industry and commerce have been relatively much more prosperous.

Two analogies are helpful. Agriculture suffered a severe shock which caused serious illness; it has passed out of this stage and made much progress in convalescence; but it remains chronically below par, abnormally sensitive to attacks of fresh illness. Or, one may say, a conflagration occurred; with great loss its ravages were checked; the fire is not entirely out, although its area is very restricted; progress has been made in reconstruction, but the burned area is by no means rebuilt.

What does such a situation call for? In part, indeed, it calls for investigation of the causes of the illness; of the factors responsible for the catastrophic fire. It calls urgently for taking measures, while the calamity is fresh in our minds, to prevent its recurrence. This particular catastrophe is not likely to return soon. But we should take steps to prevent a fresh conjuncture of the causes which brought it about, to limit its sphere of attack if it should break out, and to mitigate such of its consequences as may occur in spite of all measures. We need, in other words, such building regulations and practices and such fire-control measures as will prevent another conflagration, and insurance for those who will suffer even from limited fires. We need the development of sanitation, preventive medicine, epidemic control, and appropriate treatment for the disease itself. This being the case, one of the important tasks of a federal farm board—for I know of no other agency competent to the task—would be to plan and take such steps for the benefit of the future. It is for this purpose, and chiefly for this purpose, that we need the best analysis possible of the causes of the agricultural crisis and depression.

But there are tasks for the present as well as for the future. So far as these are concerned, we need to consider rather what are the reasons why agriculture remains below par in spite of much readjustment and some legislation, and how far these causes will vanish of themselves or with the mere continuation of the present readjustment process.

I do not believe that we can blame the present situation upon factors of long standing in agriculture—hazards of the weather, alternations of good and bad harvests, cycles of cattle and hog production, recurrence of surpluses, seasonal and season to season fluctuations in prices, or the tariff on manufactured goods. It is well to utilize the present interest in agriculture to seek to deal with these problems, but we are wrong in charging them with the responsibility for such depression as persists. It is quite short-

sighted, I believe, to blame the situation on price disparities. I have not time to point out the fallacies that creep into this phase of the discussion, but it should be clear that relative lowness of prices of agricultural products is not a primary cause, but a result. To attack it directly is like correcting a symptom without getting at the disease. I agree with Doctor Warren that a major cause of the crisis was deflation—following inflation, I would add with emphasis,—using these terms in a very broad sense. I cannot agree with him that the present condition is merely an aftermath of deflation. It is that in part, notably in so far as the burden of debt is concerned, but it is more. The height of wages and handling charges is not a simple case of lag; it represents a shift in level, due to conditions quite independent of deflation and that cannot be expected to disappear. Economies in distribution should be urgently sought, but they will be slow in bearing fruit.

I cannot take time here to analyze the reasons why agriculture is still below par. I believe it is much less so in fact than in feeling. The contrast with the prosperity of the war period, and with the prosperity of other classes, accounts for a psychology of distress which exaggerates the reality. If we should have an industrial depression without further improvement in agriculture, much of the seeming distress would cease to be vocal. But I would not deny the persistence of a degree of real depression. The reasons are numerous. There are some lines, such as prunes and grapes, in which overproduction unquestionably exists. There are others in which a reduced demand, as in oats and the dark tobaccos, is a major factor. There are others, as cotton and wheat, in which farmers in older regions are hard hit by competition of newer regions with newer methods of production. There are some in which a pest, as the boll weevil has been and the corn borer may be, is in large part responsible. One simply cannot speak accurately in general terms either about the causes or about the remedies.

On the matter of readjustment, Professor Warren largely hints rather than elucidates, both as to what has been and what should be done. I reluctantly refrain from challenging the somewhat naïve statistical analysis by which he reaches the conclusion that most of the present depression is due to persistence of high costs of getting farm products from the farm to the consumer. I note, however, that he does not follow this reasoning to its logical conclusion and urge reduction in wages and economies in distribution, as well as lower freight rates, as remedies for existing evils. I gather that he regards the reported notable decline in farm population, and the less notable reduction in crop acreages, as undesirable forms of readjustment which threaten us with food shortage. On this point I cannot agree with him. A food shortage in a significant sense, I am convinced, is a bogey. The statistics as to farm production leave a great deal to be desired, but such decline in production as there may have been is astonishingly small in the face of the decline in farm population. I will not undertake to define over-production. But I submit that if the farmers find that certain products are produced in such quantities and at such costs—not for a single year but over a series of good and bad years—that they cannot market these products at remunerative prices, their obvious readjustments are to reduce either their costs or their output, or both; and if they cannot even then find enough

products to produce at a profit, more of them or their children than usual must forsake farming for other occupations. Some of these readjustments are painful, but to many they are less painful and more possible than passive endurance. It matters not that some index of retail food prices is in line with some index of prices in general; an economic type of overproduction exists if the farmer cannot get by with prices received at the farm.

If national leadership and Federal action are really desirable, beyond the good work that the Department of Agriculture is doing and can do, the primary object of legislation should be to set up an agency which can furnish this leadership and this action, give it scope and power, and refrain from saddling it with impossible tasks or expecting it to bring the millennium in a day or a year. I believe that changes—both destructive and constructive—in our land policy are desirable; but it will take a body with brains, vision, courage, and vigor to bring them about. I believe that changes in our State and local tax systems are called for in the farmer's interest and consistent with the general welfare; but there is needed an agency capable of bringing this point home and leading to action. I believe that we can well afford, under certain conditions, to experiment with control of exceptional surpluses and the moderation of fluctuations in prices of great agricultural staples; but I believe that the experiment should be planned and launched, within narrow limits, in emergency conditions, with due preparation, by a body responsible for carrying it through and profiting by one experience in making a second experiment.

In short, I believe that Congress, in its endeavors to frame a plan for relief of agriculture, has put the cart before the horse. Let a Federal farm board and a Federal agricultural council, of proper composition, with broad powers, be authorized and wisely constituted. Enough has been learned to enable such bodies to start with an ample program of action, over and above what other agencies are doing. Under pressure from outside and with experience from within they may well be trusted to develop the program further. Personally, I should not object to giving a well-constituted board all the powers of the McNary-Haugen bills, provided full discretion as to their application were permitted. But I believe it would be quite unwise to impose such duties upon them and to give them no other powers than these. The experience of the Shipping Board, I believe, affords striking testimony to the utter unwisdom of creating a board with a hopeless task, and manning it with those who are willing to attempt to discharge the task regardless of consequences. There are other instances. In conclusion, I believe that both readjustment and legislation are needed, but that the two problems must be considered in relation one to the other and in due perspective. I believe that desirable readjustments could be promoted, others rendered unnecessary, and painful consequences of the depression mitigated, by a Federal farm board with the co-operation of a Federal agricultural council. The board might well consist of seven men of Cabinet-member caliber, including the Secretaries of Agriculture and Commerce and the Federal Farm Loan Commissioner. It should not be a farmers' board, any more than the Federal Reserve Board is a bankers' board or the Interstate Commerce Commission a railroad commission. The council, I believe, should consist of representatives of the farm-

ers, and constitute a means whereby the board and the farmers could take counsel together directly and frequently. Such an organization could both plan and execute, and, if wisely manned, might contribute greatly to the solution of our national agricultural problems.

DISCUSSION BY CHARLES L. STEWART

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Sir John Russell pointed out to an American audience recently that agricultural research and extension is supported in England by a tax on whiskey levied especially for that purpose. According to the dictionary such a combination of special taxes with appropriations to special beneficiaries is a subsidy. If one were to follow the undiscriminating tendency to consider all subsidies as undesirable and equally abominable, this method of penalizing whiskey-drinking for the support of research and extension would be condemned. It remained for a New York editor to point out, however, that there might be a worse subsidy. "Suppose," he said, "that the English were to tax research and extension workers to support whiskey-drinking!"

Economists are entitled to the right to think in realistic terms concerning the various farm relief proposals, whether they are subsidies, alleged subsidies, or non-subsidies. If the public intends to confer price enhancement upon agricultural staples in an effort to benefit their producers, the real question is, Who is burdened to make possible this result?

Let us illustrate a difference between the export debenture plan and the equalization-fee plan, which one of the speakers classed together as subsidies. Let us assume that our purpose is to obtain for wheat producers a net price enhancement of 31½ cents per bushel.

Steps	Under the plan for	
	Equalization fees	Export debentures
1. Producers would sell 800,000,000 bushels at a gross enhancement of...	\$336,000,000 or 42 cents per bu.	\$252,000,000 or 31½ cents per bu.
2. Price-level differences encountered on 200,000,000 bushels sold abroad		
Total.....	\$ 84,000,000	\$ 63,000,000
Per unit of 800,000,000 bus.....	10½ cents per bu.	7½ cents per bu.
3. Charge-back on 800,000,000 bushels.....	\$ 84,000,000	None
Reduction in customs revenues..	None	\$ 63,000,000
4. Net price enhancement to producers.....	31½ cents per bu.	31½ cents per bu.

It will be seen that the debenture method places upon groups other than those producing the feeable or debenturable products a smaller aggregate burden to absorb price-level differences than does the fee method. A second difference lies in the fact that under the debenture method products sold for American consumption do not have to sell at a price 10½ cents per bushel higher than the net enhancement to the producers. The debenture plan provides for a sharing of burden between Federal tax payers and those purchasing for American consumption and the burden shared is smaller than under the fee plan. The debenture plan is the more sparing of Americans in general and of consumers in particular. The burden is distributed under the debenture plan so as to include those most able to help. It avoids a large burden and avoids making the reduced burden regressive as far as is mechanically possible. If the export debenture is a subsidy it has some claim to consideration for having its burdens distributed on a minimum basis of regressiveness and otherwise having its burden reduced to a minimum for every dime and dollar of net price enhancement realized by the producers.

But is the export debenture a subsidy? It can be so classified only under those libertarian definitions which have a minimum of dictionary authority and a maximum of colloquial looseness. Neither the appropriations nor the special taxes which figure in dictionary definitions of subsidy are involved in debentures. Export debenture systems must be built, not upon a pattern of internal tax collections, as would be the case with equalization fees, but upon a pattern of external tax remissions or waivers. Whatever the courts may say that debentures and fees are, there can be no question as to what they are like. Equalization fees are like excise taxes specially levied for the benefit of the industry concerned. Export debentures are like export bounties resulting from waived collection of taxes on replacement dutiables, for the legal principle underlying the debenture is as follows:

The sending of certain farm products out of the United States may justify the Nation in enabling the diminished stock of these products to be replenished by dutiable goods brought in with tariff collection waived.

Tariff-waived replacement of exportables by dutiables is the heart of the debenture. It rests upon the power of Congress to levy and collect duties on imports. That power carries with it the power to refuse either to collect or to levy duties on some goods as in the case of duty-free or free-list goods. It carries with it the power to levy and collect and then remit a part or all of the collected duties, as in the case of drawbacks of duties. It carries with it the power to levy and collect duties on a basis of partial waiver, as in the case of duties reduced on goods from reciprocity countries.

Take the so-called remitted duties in the case of preference countries. Reduced collections of duties on sugar and molasses from Cuba have passed the \$350,000,000-mark for the last 18 years. The goods which we send to Cuba are 70 per cent non-agricultural while the goods which we receive from Cuba are nearly 100 per cent agricultural. Reduced to economic terms our remissions of duties on Cuban farm products are largely export premiums on our manufactures.

Our reciprocity treaties are not with European countries which import agricultural products from us. In such cases remitted duties might amount to export premiums on our agricultural exports.

Even though the decrease in customs revenue may be directly in proportion to the amount of imports in the case of such reciprocal reduction of duties, it is not subsidy. It affords special benefit to manufacturing and special burden to sugar farming in the cane and beet belts, but it is no subsidy.

If it should be asked why agricultural exports should be replaceable on better terms of exchange with dutiable articles, attention should be given to at least some of the following facts.

The power of the McNary-Haugen farm staples to exchange for dutiable goods has undergone a marked change in the last seven years as compared with the seven years before. The exchange ratio of exportables with dutiables was not markedly high during the first seven, but has been low during the last seven. A rough average index for the past seven years is about 85 per cent of the corresponding index for the seven years preceding. When it is added that the ratio of exchange between exportables and duty-free importables has been higher during the last seven years than during the seven which preceded it, at least one inference can be drawn. If it is desired to increase the purchasing power of farm exportables by tariff arrangement, that arrangement must relate to the billion-and-a-half dollars worth of dutiables rather than the three billion dollars worth of duty-free imports.

How can the Government facilitate an immediate increase in the power of farm exportables to command dutiables in exchange? Apart from an export bounty of treasury cash, there are two ways.

One way would be to put these dutiables on the free list. This is more easily said than done. Once done the benefits run to consumers as persons, regardless of whether they produce farm exportables or inner tubes, and not to agricultural staples as things. Such an *ad personam* result, when farmers are less than 26 per cent of the populace, works backwards as a measure of help for the export branches of American agriculture. An *ad rem* approach is less likely to be lost in the shuffle.

The second way to increase the power of exportables to command importables in exchange is to waive duties on specific replacement imports. Reciprocal treaties with certain countries having deficits of farm products might attain this end in part, but the more hopeful method is a one-country reciprocity between the two classes of products. This would work as follows:

An exporter of wheat at 21 cents a bushel receives a customs-waiver certificate (export debenture) for \$42,000. This will be used by him or his assignee who pays him nearly par for it to obtain debenture entry of dutiables on which \$42,000 worth of duties are levied—levied but not collected.

Assume that \$60,000,000 of such debentures were issued on wheat and \$140,000,000 worth on cotton and other products. The \$200,000,000 worth of debentures would admit about a third of the dutiables without collection of duties, or about a half billion dollars worth. There would still be another billion dollars worth of dutiables which would be admitted on the collection basis. Even if \$750,000,000 worth of dutiables were given debenture entry the debentures would be acquired by importers practically at par and

sold by exporters at a slight brokerage margin below par. Established duties would be unimpaired and an export premium allowed on exports.

Would these export premiums reach the interior markets unimpaired and apply to the total commercial production of the debenturable products? There seems to be little doubt on these points.

Apparently, the tariff-waived or debenture entry of a half to three-fourths of a billion dollars worth of dutiables can add from three-fourths to a billion dollars in valuation of agricultural staples in the United States. This can be done without reducing customs revenues below the yearly figures prevailing during the ten years preceding the outbreak of the World war, thanks to the remarkable revenue productivity of the provisions of the Tariff Act of 1922.

Is such an artificial re-enforcement of the foreign demand for farm exportables justifiable? Under existing circumstances the answer to this question should be affirmative.

If all import-basis products were to be changed over to the duty-free list the debentures would lose their power and could put no efficiency into empty rates of duty specified on export-basis products. Such a result is not inherent in the equalization-fee plan. You could admit all import-basis products to the duty-free list and still because of its use of the internal-tax pattern the fee board could continue its price-enhancing operations, after the ordinarily effective tariffs are wiped out. In other words, export promotion could persist under the fee plan in a period when the only import duties would be those on the feeable products. Export debentures must die when duties on imports cease to be levied. Debentures are correctives under the tariff on import-basis products and must quit their correcting when there is no customs inequality to correct as between importables and exportables.

Are export debentures subsidies? They are waivers of collection of taxes on an inbound trade movement and are so directed as to facilitate an outbound trade movement. They do this without appropriations or special taxes. If that is subsidy, then what can be said for near-embargo tariffs which keep our customs revenues hundreds of millions less than they would otherwise be, or our sugar duty remissions which premiumize our manufacturers seeking outlet in the Cuban markets, or our free list which departs from maximum-revenue principles so far as to admit three billion dollars worth of products into this country without any duty? If these non-appropriation, non-special-tax favors to manufacturers, on the one hand, and to consumers, on the other, are not subsidies, neither are export debentures. Debentures are waivers of taxes, taxes that are notable for their avoidance of a maximum-revenue principle and, in the case of prohibitive tariffs, they are waivers of taxes conferring special favors on selected lines of industry. An exemption of this kind is no less respectable than the thing from which it exempts where the purpose of the exemption is to even up a relationship previously tending against agriculture.

The real issue runs more deeply than the use of an English word of Latin derivation. The real issue is whether a less regressive method of fairly immediate workability can be introduced to restore a balance which Federal policies, including tariff, immigration restriction, non-cancellation of inter-

government debts and other measures, have disturbed to the disadvantage of our farm exportables.

We need no mercantilism that exalts agricultural exportation as a superior thing, but we have no right to declare agricultural exportation an inferior thing. Either by reciprocity with farm-export receiving countries or by this type of internal or one-country reciprocity between exportables and importables we can wisely prevent the very positive discouragement of the export branches of our agriculture. As I see it, the criterion should be the most immediate and effective undiscounting of these export branches of farming.

Subsidies which would help to undiscount our agriculture might be better than non-subsidies which discourage it. The preference for a non-subsidy form of neutralizing adverse policies rests not so much upon economic grounds as upon legal requirements. Proposals based upon subsidy patterns are subject to challenge on constitutional grounds. By its complete avoidance, both as to appropriations and as to special taxes or quasi-taxes, of subsidy patterns and by its use of the tax waiver pattern, the export debenture has not only differentiated its position from that of the equalization fee, but made its position one of marked strength from the standpoint of the Constitution.

RESEARCH IN AGRICULTURAL ECONOMICS¹

HENRY C. TAYLOR

Research in agricultural economics is the most important subject with which the American Farm Economic Association is concerned at the present time. Resident teaching of agricultural economics, the extension service and the formulation of state and national policies for the improvement of agriculture are very important, but their success depends upon the effectiveness with which the research work is carried out. Research gives the fact basis for clear thinking and right action.

So many conclusions rest upon assumptions rather than upon facts that you can scarcely over-emphasize the significance of an adequate presentation of facts. At this point I can do no better than to quote Owen D. Young, as cited in the *Review of Reviews* for November, 1927. These are Mr. Young's words:

".... Facts can be applied in any field. Our curse is ignorance. Facts are our scarcest raw material. This is shown by the economy with which we use them. One has to dig deep for them, because they are as difficult to get as they are precious to have. I shall be happy if we can substitute the calm findings of the investigator for the blatant explosions of the politicians."

Research projects in agricultural economics may relate to individual efficiency in production and individual and group efficiency in marketing or to the general welfare. Research from the one point of view looks toward increased profits of the individual farmer, and research from the other point of view looks toward the development of national policies which will conserve, in a well-balanced way, the interests of those engaged in agriculture as one of the basic national industries and occupations.

There have been long periods in the history of agriculture and of mankind when the customs of the community, or the established order in national policy, served adequately the static life of the times. This is not true today. This is not a day of static conditions; it is a day of rapid trans-

¹This paper was read at the eighteenth annual meeting of the American Farm Economic Association at Washington, D.C., December, 1927.

formations. Yesterday's methods of production and marketing, and yesterday's methods of public control are obsolete today. Throughout all walks of life, throughout all industries and all occupations in this country, and throughout the world all is in a state of flux, dynamic forces are pushing aside established customs, and only those who understand these movements and act in harmony with them can hope to hold their own. Rational action or action under rational leadership is the greatest need of our time. Rational action in a changing world must be based upon a knowledge of the facts and the principles underlying both the static and the dynamic forces in operation. Research is the modern method of securing the knowledge essential to rational agriculture, both in economic activity and in the formulation of public policies which determine the metes and bounds of individual action in adjusting the intermingled economic interests of the modern world.

A survey of the research work in agricultural economics which is being carried on in the United States, shows that the work has been developed largely from the standpoint of individual economic efficiency in production and marketing; but little attention has been given to questions relating to state and national agricultural policy. A committee made up of members of this Association, appointed and financed by the Social Science Research Council, to consider problems relating to economic research in agriculture, was appointed about two years ago, for the purpose of considering ways and means of improving economic and social research in agriculture. This committee was made up in part of the members of the Committee on Research of the American Farm Economic Association, and in part of members of the rural sociological group of the American Sociological Society. Up to the present time it has devoted itself almost wholly to the making of a survey of the social and economic research in agriculture in the United States, with special reference to the work in progress during the fiscal year 1926-27. During the spring and summer of 1927 members of the committee, or their representatives, visited practically every institution in the United States carrying on research in these fields. The results of this survey have

been summarized and issued in five mimeographed volumes, which have been distributed in the institutions in which work in this field has been carried on.

During the year covered by the survey there were 332 projects in agricultural economics in progress, in the agricultural experiment stations of the United States; there were 288 research workers devoting all or part of their time to this field of work, and approximately \$800,000 was expended by these institutions. In addition to this, approximately an equivalent amount of energy and funds was being expended in this field by the United States Department of Agriculture and the privately endowed research institutions.

Viewed quantitatively and historically, these are amazing figures. A quarter of a century ago almost no research was being carried on in this field. An occasional doctor's thesis, such as Hammond's "The Cotton Industry," Kelsie's "Negro Farmer," Hibbard's "Agriculture in Dane County, Wisconsin," were isolated examples of research work being carried on without financial resources, by young men interested in agricultural economics. The rapid development of economic research in agriculture in recent years is giving this line of work recognition in the agricultural colleges and the Department of Agriculture comparable to that of the physical and biological sciences. The appropriations that have been made available, while a compliment to those who have participated in the development of the field, are primarily a challenge to the men in this field of work to meet the demands of the time for facts and principles which will clarify the great agricultural problems of today. These problems relate not only to efficiency in production and efficiency in marketing, but also to righteousness in national agricultural policy.

Let us pause a minute to consider this idea of righteousness in national agricultural policy. The agricultural policy has as an aim abundant production and a desirable distribution of wealth. To tell what is a desirable distribution of wealth requires ethical standards to enable us to formulate the demands of justice. But to say that we want a desirable distribution of wealth which would give satis-

factory returns to labor, capital and enterprise in agriculture is not enough. Wishes in themselves accomplish nothing. We all wish that the farmers had a larger share in the distribution of the national income. In order to bring about this we must know the facts and then direct the social and economic forces so that we may bring about a better distribution of wealth. The aim of our activity must be ethical. When we know the facts we may learn how to so direct the forces as to produce a better national distribution of wealth. If we have a tariff on imported goods which brings about a maladjustment, that should be changed so as to set in operation forces bringing about a better distribution. If the land of the country is unwisely utilized so as to give us an unbalanced production of wealth, with low return to the farmer, then we should aim to bring about a better utilization of the land. To understand these facts and forces means research of a high order.

While there are those who attribute the distribution of incomes to natural economic laws beyond the control of men, John Stuart Mill, one of the greatest of economists, has said, "The distribution of wealth depends upon the laws and customs of society. The rules by which it is determined are what the opinions and feelings of the ruling portion of the community make them, and are very different in different ages and countries; and might be still more different, if mankind so choose."²

In order to meet the challenge which the appropriation of large funds for research makes to the agricultural economists of the United States, as well as the challenge made by the deplorable conditions from which agriculture has now suffered for seven years, great effort must be put forward in the years immediately ahead of us, to improve the quality of the research work we have in hand, and to direct this research into lines which will produce the hitherto undiscovered facts and principles which underly the basic problems of agriculture as an essential part of our national life.

Of the research projects in progress during the year 1926-27, more than half related to farm management. The objective is efficiency in farm organization, the point of

²J. Stuart Mill, "Principles of Political Economy."

view is primarily that of maximum profit for the individual farmer. This was one of the first lines of research developed in the agricultural colleges. Its objectives were more closely in line with the work with which the directors of experiment stations were familiar. Technique of research was early developed in this field. The work was adapted to the quantitative methods of accounting and statistics, quantitative methods which were in common use in the physical and biological experiments. Hence research in the economics of farm management by the accounting and statistical methods has taken and held the lead.

The marketing of farm products is next in importance in economic research in the agricultural colleges in the United States. Eighty-eight marketing research projects were in progress during the year 1926-27. There were 24 projects relating to agricultural co-operation primarily in marketing, and there were 19 studies that covered both the production and the marketing phases, either from the standpoint of one commodity or from the standpoint of all the commodities in a given area. In all more than 80 per cent of the economic research projects in the experiment stations related to efficiency in production, or efficiency in marketing largely from the standpoint of efficiency in performing these functions. From this it becomes clear that agricultural economics is not only a science, but an applied science, and that up to date it has been applied most largely to those problems which are directly confronting the individual farmer as a producer and a marketer of farm products.

The field of agricultural marketing commenced to receive attention about 15 years ago as a result of agitation on the part of farmers who felt that increased efficiency in production was not benefitting farmers, and that what was needed was some means of getting a larger share of the consumers' dollar. It was believed that increased efficiency in marketing was the means of attaining this end. But with progress in the research work in these fields the economic vision has become clarified to the point where it is now recognized, both by leaders in research and by leaders in movements for rural betterment, that efficiency in pro-

duction and efficiency in marketing, both valuable in themselves, will not solve the problem of securing a fair share of the national income for farmers, that our researches must sink deeper into the economic fabric of our national life, if we are to understand and be able to solve the problems of the distribution of wealth. Some attention is being turned in this direction. Three projects dealt with wealth and income of agriculture as an occupation. Nineteen projects related to taxation, with special reference to the influence of taxes upon the farmers' net share in the national income.

Twelve studies related to credit in its relation to agriculture. The interest rate will at once be recognized as a factor in determining the net share of the farmer in return for the products which he sells. Twenty projects related to land economics. Many of these projects dealt with the relation between landlord and tenant, and thus treated directly with a problem in distribution. Only one project was discovered relating to agricultural labor, and only four were designated as agricultural history. I believe that the study of agricultural history and geography as methods of economic research will have to be brought into much more general use if the basic dynamic problems of agricultural production and marketing, and particularly the problems of the distribution of wealth between agriculture as an occupation and other occupations, are to be dealt with in an adequate manner. The development of ethical standards in economic life, the effect of given policies upon the welfare of those in the various occupations, must be viewed in the light of the probable ultimate effect of the policies upon the future of mankind. Thus must be based upon a careful study of agriculture in its relation to the rise and fall of nations and peoples.

Another important line of research which is of fundamental importance in solving the problems of the occupational distribution of wealth in the United States is a comparative study of standards of living on the farms and in the cities, and the development of ways and means of cultivating higher standards on the part of farmers who, because of their isolation, are inclined to lag behind those engaged in

city occupations. It is believed that the standard of living of farmers is basic in determining their share in the national income. This is believed to be true because of the importance of the standard of living in setting limits to competition of farmer with farmer. This has been put forward as little more than a working hypothesis. Research in this field is of very great importance. No projects were presented by the agricultural economists under this heading, but 16 projects were under way by the rural sociologists. I desire to emphasize the fact that the standard of living should receive the attention of the economists. The standard of living is a major factor in determining the share of farmers in the national income. It is believed that in the long run the income of those engaged in any given occupation will be determined by their standard of living even more than by their standards of efficiency.

With regard to methods, research in agricultural economics is more largely on the quantitative basis than is true of economic research in general. As indicated above, the accounting and the statistical methods have been most largely used. The historical and the geographical methods have received but slight attention in the agricultural colleges; but have not been overlooked in the Bureau of Agricultural Economics. In general, qualitative analysis without quantitative statements is not looked upon with favor among agricultural economists. It is believed to be true, however, that the quantitative research by the accounting and statistical methods would be greatly improved if more attention were given to that type of theoretical analysis which projects the work into the future in the form of working hypotheses which should never be mistaken for conclusions, but as starting points which bring economy and efficiency into the fact finding that is essential in securing quantitative results. Furthermore, the historical background and the geographical setting of the specific facts secured by the accounting and statistical methods, are essential if the facts brought together by these latter methods are to be used as bases of practical judgment, either for the farm manager who seeks maximum profit, or the statesman whose point of view is that of rural welfare. Thus, as we

look to the future we anticipate the extension of research more and more into the public phases of agricultural economics and the greater utilization of the analytical, the historical and the geographic methods along with the accounting and statistical methods in assembling the facts essential to the solution of problems.

As the facts regarding the research in agricultural economics were marshalled before us in the survey, we were impressed with the fact that a large percentage of the 288 people engaged in this research have not had training adequate for the most efficient work in this field. Only 21 per cent of the research workers in this field hold Ph.D. degrees. About 50 per cent hold Master's degrees, leaving about 29 per cent with no degree above a Bachelor's degree, a limited few of whom do not even have a Bachelor's degree. Closer study shows that many of the men with higher degrees have had very little training in economics and the methods of economic research. This situation may be explained in terms of the fact that a large number of research workers are under supervision, and are taking graduate work in conjunction with their research work. In many of the institutions these younger men are making good progress in further preparation for future work; but there are 22 institutions in which there is not one man in this field holding a Doctor's degree. There is little chance of improvement of research in these institutions without new blood, or more time for graduate training for the men now holding the positions. It would seem important, therefore, that young men in this field be stimulated to take at least a year off for graduate work, which should have for its purpose the putting of their research work on a more efficient basis for all the remaining years of their active service. In addition every research worker should devote one year in seven to study and travel. This is particularly important for workers in the experiment stations, because their summers are usually devoted to their regular research work.

The members of the Committee on economics and social research in agriculture felt so keenly the importance of this matter that they recommended to the Social Science Research Council that a number of fellowships be provided for

the specific purpose of stimulating graduate work on the part of research workers in agricultural economics and rural sociology. It is hoped that favorable action upon this request may result in fellowships available for next year.

The preliminary report of the survey of research work in agricultural economics in 1926-27 has been mimeographed in a limited edition. Copies have been sent to each of the agricultural experiment stations. It will not be possible for each worker in the field to have a copy, but each department of agricultural economics should have received a copy, and the director of each experiment station has been given a copy, which it is hoped will be placed in the station library.

The preliminary report is intended simply to give a statement of the status of research work in the agricultural experiment stations. In a future report it is desired to give a statement of the scope of agricultural economics as the Committee feels that it should be developed, and a description of the methods of research which the Committee believes should be used in carrying on this work.

While the survey shows great progress in the past, it is to the work of the future that we should give our attention. If agricultural economics is to occupy in full its proper place in agricultural research and education, it must become manyfold more scientific and a hundredfold more useful.

RESEARCH IN PRICES OF FARM PRODUCTS¹

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Let me hasten to explain that I do not stand before you either in the guise or disguise of a price specialist. I am taking the part I am in this program, because when the Advisory Committee in Social and Economic Research in Agriculture started to divide up its job of reporting in the several fields of research, it was found that there was not a real price specialist among us. Alas, we were all specimens of that unfortunate genus, heads of departments, who in the mad rush of present-day developments are best described in terms the very opposite of those befitting the specialist, that is, as knowing less and less about more and more.

But you have heard from the eager young men who are our price specialists these days at each of the last several preceding meetings of the Association. Perhaps some of you have tired of arrays of coefficients of correlation and regression and alienation and determination and of probable errors, and will be glad to hear a few observations by a layman, meaning a mere economist.

The report on Price Analysis which has just been circulated in Vol. IV and whose authorship has been ascribed to me, is not to be assumed to have any authority as yet; certainly not the authority of the Committee. Trouble was taken to have it read by a few well qualified persons outside the Committee, and no doubt the worst of its errors have been removed. It is circulated at this time partly in the hope that it may stimulate further careful considerations of plans and methods in this field, but more especially in the hope that it will call forth criticism both destructive and constructive. It is the wish of the Committee that it be read carefully by all persons in the least interested and that all who have objections or suggestions will communicate them at once. The final report should combine the knowledge and experience of all workers in the field.

¹This paper was read at the eighteenth annual meeting of the American Farm Economic Association held at Washington, D.C., December, 1927.

Although I know that you have not read the report at this time, it is not my wish to duplicate very much of it in this paper. What is here presented is therefore largely supplementary to it, and much of it will relate to the problems of the organization of research work in the price field. As a foundation for this discussion, we shall need the following outline of price research work. This outline is made first of all with a view to including the research already done or in progress, and secondly with a view to suggesting future lines of development. It is a classification not in terms of projects as found, but rather in terms of research problems or tasks or operations. Thus, collecting historical price data is interpreted as one research operation, and explaining changes in prices as another. This form of classification is the one that seems best suited to the purpose of analyzing scope and method.

Outline of Field

1. *Collection and assembling of price data.*

- A. Historical series.
- B. Geographical series.

While the data here included are primarily price data, the statement must be interpreted to include also data of production, quality and grade, basis of sale, yields, consumption, shipments, receipts, imports and exports, carry-over, etc., such as are needed to explain price differences.

2. *Price measurement.*

- A. Price quoting—selecting a figure to represent the price of a particular product.
- B. Price relatives and indexes—figures representing prices of a product, or of a group of products combined over a period.

3. *The general price level: Measures, and factors affecting—*

- A. Long-time trends
- B. Cycles and episodes (wars, etc.)

4. *The relation of farm prices to the general price level.*

5. *Factors affecting the price of specific commodities.*

A. *Factors affecting supply, including the relation of prices to subsequent supply:*

- a. Out of stock
 - (1) Visible
 - (2) Invisible
- b. Out of new production

B. *Factors affecting demand, including prices as related to demand:*

- a. Consumers' demand
- b. Dealers' demand

- C. *Factors affecting price*—projects under this head are usually called “price forecasting.”
 - a. Long-time movements
 - (1) Trends
 - (2) Cycles and episodes
 - b. Seasonal movements
 - c. Short-period movements, including prices in the market place.
 - D. Cash vs. future prices—speculation.
 - E. Margins between prices in dealers’ and consumers’ markets—spreads.
 - F. *Market differentials*—geography of prices:
 - a. Dealers’ markets
 - b. Producers’ markets
 - c. Consumers’ markets
 - G. Market grade and class differentials.
6. “*Price-fixing*,” “*necessary price*,” “*fair price*,” etc.

A. The nature of the same.

B. Determination.

While the foregoing relate mainly to prices of farm products, some of the projects concern things which farmers buy, such as feed and fertilizer. The same methods of attack could for the most part be applied to all the cost goods used by farmers, such as farm machinery, building materials.

Results of Survey

The survey of research work under progress uncovered a total of 42 projects at 17 different experiment stations in various divisions of the above outline, besides the work being done in Dr. Stine’s division of the Bureau of Agricultural Economics and other divisions of the bureau, the work being done by the Food Research Institute and the Institute of Economics, and a growing volume of such analysis by co-operative and other commercial enterprises. This does not include a large volume of price research that is being carried on as a part of other projects. Only nine of the Cornell research projects were classified as falling in the field of prices; but a letter from Prof. Pearson lists seven other projects including important price analysis. A similar situation prevails at Minnesota and several other stations.

All of this is a development mostly of the last seven years. No important work in this country except that of H. L. Moore antedates 1920. Projects in the field of marketing from the start gave some attention to prices, but the analysis was nearly always simple and crude. The chapters

on prices are the weakest chapters in the textbooks thus far written on agricultural economics and marketing. Some years ago when Dr. Stine's division was just being organized, I predicted that presently it would find itself in the center of the stage and occupying most of the strategic positions. So correct was my prediction, that I suspect that one of the principal problems of the present chief of the Bureau of Agricultural Economics is to keep all the other divisions from trying to do price research too. Price analysis looks both forward to consumption and backward to production. It relates itself to transportation and every step in the marketing process.

This means that few of the workers in the field of production, marketing and consumption are able to keep their hands off of it. Animal husbandmen, poultry specialists, and agronomists freely engage in the hazardous undertaking of forecasting prices along with the farm management specialists and the marketing specialists.

Collecting Data

Now let us run hurriedly over the divisions of the outline, pausing here and there for more extended discussion of important problems. First of all, the problem of collecting historical and geographical data needs a little consideration. The impelling motive for such work in any state is the need for data as to prices at the farm. The wholesale market data do not reflect changes in freight rates, middlemen's margins and the like. There can be no doubt that having such data would complete the picture in many details. But when one considers carefully the various projects in which such data will want to be used, one will presently realize that considerable supplementary data will be wanted, such as threshing rates, prices of twine, fertilizer and other supplies, local prices of farm machinery, wages of farm labour, yields, disease epidemics, dates of introduction of new varieties and breeds and new cultural practices. It is therefore suggested in the report that stations go somewhat slowly with such projects at first, and especially that they consider the advisability of getting as much as possible of these data at one time even though it means

covering the state a section at a time. One of the most important of the uses to which such data will be put in most states is in helping to explain shifts in production. But changes in prices of products alone will account for only a part of the shifts—often a small part indeed. It is one of the surprises of the economist often to find how little can be explained in terms of prices of products alone. Prices of competing products constitute only one set of the variables involved. It will probably take only about twice as long to get all the data above outlined as to get prices of products alone, and it would seem worth while surely in many cases. Any station that wishes to play safe in this matter may try it out by first collecting data in one section of the state and seeing what can be done with them.

Price Quoting

The problem here is to develop the scientific basis and the technique of the art of quoting prices. In a given day in a given market, 460 lots of hogs are sold and driven over the scales. What one figure or group of figures properly describes the price at which they were sold, and tells whether it was higher or lower than yesterday's price or the price in some competing market? In the South St. Paul market, the following types of quotations are used: A list of representative sales, average cost to packers, ordinary range, range-by-grade. Some of the quotations given do not represent actual sales, but are "nominal"—what the price would have been if sales had been made. The research worker analyzing fluctuations in prices from day to day must either use average cost to packers, or else construct a new average of his own. Average cost to packers weights the heavy hogs the most. If he is working with weekly, monthly or yearly variations, he must choose some method of averaging over a period of time.

Obviously the scientific basis of price quoting involves sampling, frequency distribution, and averages. The problem calls for a very thoroughgoing and careful application of these principles. The Minnesota station has the only research project reported in this field, started about four years ago. No doubt other stations have given some atten-

tion to it as part of general price projects. The Bureau of Agricultural Economics has recently been studying the problem with respect to cotton. In the beginning, the Minnesota project was directed at prices for livestock, grain and produce. Recently, it has been confined to livestock. Early in the livestock analysis, the difficulty of relating quotations to market grades appeared. One whole part of the analysis has therefore been directed to developing an objective and usable basis for market grades. Dressing percentages is the basis that has been most thoroughly examined. Minnesota is just completing the tabulating of enough sales of hogs for each day in a whole year to make an adequate sample of that day's business. A comparison of the frequency distributions obtained is revealing many interesting things about price behavior.

We can now consider the application of price quoting to the problem of collecting historical and geographical price data. Ideally one should have enough quotations for any area at any period of time to make a good sample and frequency distribution. Practically this is very difficult and often impossible. The figures obtained from different diaries are often for different grades of products sold on different basis. The time of the year when the crop is sold makes a world of difference in the price. Cash crops like tobacco are usually sold only once each year. Local newspaper quotations are often carelessly compiled by incompetent editors. It is plain, therefore, that historical and geographical price data, especially the former, will seldom be more than roughly accurate. In actual practice, a great deal of personal judgment is applied in stringing together and combining series obtained from different sources.

Price Index Numbers

Cornell University is undoubtedly maintaining the most elaborate system of index numbers of any State. Its system includes index numbers of farm prices in surplus areas and in deficit areas, of wholesale prices of both processed and unprocessed farm products, and retail prices, all of these for the United States as a whole, and several of these for New York State alone. Professor Ladd is

constructing an index of farm prices by types of farming in New York State, and another project involves the working up of a monthly index of 16 different feeds in New York State from 1890 to date. Fifteen other states are developing index series; but information is available concerning only a few of these. Those of Iowa and Minnesota cover all farm products and also cost goods. California and Michigan have general projects in prices of farm products, in which the compiling of relatives and indices is perhaps the major operation. Ohio and Nebraska published such index series in bulletins in 1923, and Missouri in 1926. The work of the Bureau of Agricultural Economics along these lines is of very great value. It is a type of service for which a central bureau is especially qualified. But there is still need that special index numbers be constructed on a state, or better still, a regional basis. An index number that has cotton in it has very little application to New York conditions.

It needs hardly be mentioned that each station should consider carefully the kind of index series it constructs. There is ample reason for asking whether Fisher's formula 353 does not give a better and more useful index series for farm products than the one now used by the Bureau of Agricultural Economics.² I have discussed this matter at some length with Professor Persons, and he is convinced that the Fisher type of index is best for farm products. All that is suggested here is that the matter be studied carefully by each station before it takes the next step along this line. The Quarterly Journal of Economics has an excellent discussion of Fisher's formulas by Professor Allyn Young. Professor Young points out the folly of calling No. 353, as Professor Fisher does, the "ideal" index number. English critics have been even more scathing in their denunciation of his calling this the ideal index number. But nobody has denied its advantages for certain uses, and prices of farm products is one of these, in the opinion of a number of competent authorities.

A special advantage of it is that it gives an index that can be multiplied into a physical volume of product index

² Irving Fisher, *The Making of Index Numbers*, Chs. XI and XII.

to get a value of product index that is equivalent to a gross income index. Many stations are interested in working up income as well as price series, and the expenditure of money and time that will give the data needed for the income series will at the same time give the data for price and physical volume index series using formula 353. This is an especially valuable consideration if an income series is wanted back to 1910. The same formula can be used for expenditures as well as receipts.

Mr. G. H. Knibbs, the Australian statistician, has pointed out in two articles in the Quarterly of the American Statistical Association (1924) that formula 353 does not give what he calls an "unequivocal" price index. What he probably means by this is that, expressed in terms of a farm products index, a change in the relative importance of the different crops from year to year, due for example, to good and bad weather in different cropping areas, will produce changes in the index entirely aside from the changes in unit prices of the different products. This is of course what we want such an index to show. We need an index series that will truly reflect changes in the relative importance of the different products as well as in unit prices. An index number by definition is an average. It is ordinarily a weighted average. There can be no such thing in reality as a price index that is not a weighted average. Even simple weighting is weighting, albeit false weighting in most cases. A price index is therefore an "average price" concept—ordinarily a weighted average price concept; and an *average* price may properly change by reason either of the unit prices or of the weights. When one says, therefore, that farm prices have risen three points, one means that *weighted average prices* have risen three points; and it is properly said only if the weights as well as the unit prices have been taken into account. In a definite quantitative sense, therefore, one can speak of the price of a single product as changing a given amount without any regard to the amount of it that is sold; but not of the amount of change in the price of a composite of several products.

Practical considerations as well as logical and quantitative accuracy must also be taken into account in such

matters. The difference in the results obtained with formula 353 and with constant weights when the period is short and changes not large may not warrant any distinction being made. For a permanent index, however, a series will be wanted which takes account of changes in seasonal marketings from year to year and over a period; and this may warrant using formula 353 from the start.

The General Price Level

Research looking toward measuring the general price level and explaining its behavior had for the most part better be left to the general economist. The subject is so difficult that only a few can expect to handle it properly and at the same time be good agricultural economists. The theory of money and business cycles as expounded by the forward thinkers in these fields has departed far from the simple categories and formulas of earlier days. Nevertheless, any agricultural economist doing research work in the field of prices needs to be thoroughly familiar with all the controversial issues relative to money, credit and cycles, and it may well be that he will uncover some facts that will throw light upon important issues.

Farm Prices and the General Price Level

Research in this field consists mainly of the studies in the so-called "purchasing power of farm products," and in the effect of the "business cycle" upon agriculture, and of agriculture upon the "business cycle." Engberg's published study on the second of these subjects, and his study under way on the third, made for the Institute of Economics, are the most noteworthy undertakings in this general field—excepting H. L. Moore's pioneering work in his "Economic Cycles, their Law and Causes" in 1914, and his "Generating Economic Cycles" in 1923. Readers of the Journal are also familiar with the work of Mr. L. H. Bean on this problem, which is being continued. Other aspects of it have been stressed by Professors Warren and Pearson. It is a promising field for future research.

Factors Affecting Supply

The projects coming under this head have commonly been called "elasticity of supply" studies. The usual economist

objects to this designation because elasticity of demand, the opposing term, assumes a given moment of time, whereas of the relationship here involved a lapse of time is almost the essence. The objective of an "elasticity of supply" study is to discover how much response in the form of increased production, either by way of larger acreage or more livestock, or of more intensive production, occurs in a given period of time following a given rise in price—or the converse of this following a given decline in price. It is, however, undesirable to limit studies under this head strictly to the effect of price on supply. Other factors must be given full consideration too.

The principal work on this phase of prices which was brought to the attention of the Committee was that of Ezekiel, Rauchenstein, Stitts and Gans on dairy products, of Elliott on hogs, of Metzger on corn, of B. B. Smith on cotton, of Holbrook Working and Holt on potatoes, of Rauchenstein on canteloupes, of Schultz on beef, and of Professor Warren and his staff on several products. Those of Elliott, Schultz, and Gans are most available for study. Professor H. L. Moore's work on this problem is an integral part of his theory of business cycles.

It should be pointed out that the studies of this type are in their infancy. They always will be difficult, and frequently no significant co-variations will be found. The coefficients of correlation will usually be so low that the results obtained can be considered only as trial figures or as points from which to make departure on the basis of supplementary facts. A great deal of experience is needed with the statistical technique involved. Such questions as whether to use absolute data, or logarithms, or first differences, for one or all the variables need to be worked out. It is highly probable that a large change in price has a more than proportional effect on production.

Factors Affecting Demand

This problem involves analysis of the effect of price on demand, commonly called elasticity of demand, but also the effect of all other conceivable factors, such as substitution, competition of other uses, climate, weather, incomes, busi-

ness conditions, advertising, etc., upon demand. The discussion here will be principally of the price relationship.

Studies of elasticity of demand of a rather crude sort have been made for some time. For example, it has long been pointed out that demand for butter falls off rapidly after a certain point has been reached. Some attention has for some time been given to the extent and nature of substitution at certain price levels. It is only recently, however, that efforts have been made to get at it in a more fundamental way. It is doubtful if any studies of elasticity of demand have yet been made which really satisfy the economist's definition of demand as the amount which potential buyers stand ready to take at a given price, for the reason that it is difficult to find out how much the group of potential buyers really would take at various prices. Dr. Holbrook Working says on this point that "The demand and supply of the market place are seldom, if ever, subject to satisfactory measurement."⁸ What has been done instead is to make three types of studies relating to demand, which are as follows:

- (1) Studies of consumption of specific products, and factors producing changes in the same.
- (2) Studies of the relation between quantities sold and prices on the same day in the same market.
- (3) Studies of the relation between quantities sold during a period and average prices during that period.

Space does not permit a discussion of these three types of studies. The general subject is excellently handled in a succession of three articles in the *Quarterly Journal of Economics*, the first by Holbrook Working in August, 1925, the second by Elmer Working in February, 1927, and the third by Ezekiel in February, 1928. Dr. Schultz's paper in the *Journal of April, 1927*, is also valuable in this connection. Studies of demand of the sort being made by Ross and Waugh also point to a solution of other phases of the problem by carrying the analysis nearer to the final purchaser.

⁸ *Quarterly Journal of Economics, August, 1925, p. 524.*

Factors Affecting Prices

As a matter of pure science, the problem here involved has nothing in it in the way of principles that is not included under the two headings just above. The relationships between supply and demand and price which give us a supply curve and demand curve at the same time give us the basis for the price that will accompany any given supply. The present problem is therefore to a considerable extent a mere restatement of the former ones with a different unknown. The restating of it in these terms leads to a new scheme of grouping of the projects, namely, into those designed to determine the factors affecting, (a) the long-time movements of prices—these include the year-to-year changes, the longer movements that are associated with production cycles for particular products and business cycles, and the still longer movements that are associated with relative rates of expansion of industry and agriculture; (b) seasonal movements; (c) short-time movements—weekly, daily and hourly movements. Classifying on this basis brings more emphatically into the picture such influences as business conditions, trade arrangements, monopoly, storage facilities, etc.

The usual approach to the foregoing problems, however, is from the applied side. The objective set up is not simply the scientist's objective to explain the behavior of prices, but the artist's objective, actually to predict them. The scientific explanation of prices by economists is absolutely fundamental to good technique in price forecasting; but in the present state of our understanding at least, it falls far short of providing all the technique needed. For a long time yet, a keen observer of the market with intimate inside knowledge of market conditions and developments will forecast the market more successfully than the scientist armed only with his statistical computations.

The most usual type of project in this class undertakes to develop a statistical basis for predicting the average price of a product for the coming year or marketing season. The methods of analysis used early on this problem were those of simple one-variable tabulation. At present the most involved statistical technique is in constant use. Dr. Hol-

brook Working's study of potato prices was probably the first made by agricultural experiment stations which used the more involved statistical technique. Waugh's at New Jersey also of potato prices followed soon after. The Bureau of Agricultural Economics has since completed similar studies of hogs, lambs, oats and cotton prices. It has worked upon or has studies under way on the prices of corn, wheat and butter. The latter is in co-operation with Minnesota, which is also working on corn, oats, and eggs, and is still working on potatoes. Cornell is using correlation methods on practically all major projects and on several minor ones. The California experiment station has a general project of this nature, but thus far only cantaloupe prices have reached the stage of publication. Iowa is working on hog and beef cattle prices, the beef cattle analysis being clearly of the type in question. Massachusetts and New Jersey are working on eggs, and Maine and Ohio on potatoes. In addition, Dr. Holbrook Working of the Food Research Institute is working in a very thoroughgoing manner of wheat prices, Daggitt of the American Cotton Grower's Exchange on cotton, and Ward of the Pacific Coast Egg Producers on California eggs in the New York market.

The methods used in such analysis are under constant attack by persons who are as extreme as Sechrist who doubts the value of all multiple correlation work, to those as mild as Persons, who considers that a great deal of discretion and supplementary data and analysis are needed in interpreting the results. It is very certain that the early forecasters were over-enthusiastic; it is equally certain that some of the newer ones still are. On problems of this sort especially, many persons are trying to use statistical technique which they do not sufficiently comprehend. It certainly must be admitted that the forecasts made have failed to stand the test of application more frequently than was generally expected. The assistance of highly-trained statisticians is apparently needed on this problem. Experience thus far indicates that their criticisms must be taken seriously. But there is also evidence that what is needed is not abandonment of present methods, but the refinement of them, and better understanding of them. The tests of such

procedure must after all be experience. Some of the later refinements have already made results more generally successful.

It is far beyond the possibilities of this preliminary report to discuss the details of the statistical technique involved in such analysis. But perhaps a few suggestions of a general nature will give some timely assistance:

1. Coefficients of correlation and regression ("predicting equations") must not be understood for more than they are. They are nothing more or less than devices for describing the period being studied. A coefficient of correlation is an average—it expresses, in Professor Person's language, "average co-variation." The regression equation states in addition the rate at which the variables change with each other. The information they convey is for the period studied—say 1900 to 1925. Of themselves, they say nothing about any other period either past or future. The only difference between simple and multiple correlation in this respect is that simple correlation furnishes a very poor description in any case where several co-variations occur. When it comes to using a regression equation for predicting what some other similar period taken as a whole will be like, then the whole question arises as to how good a sample the period studied is. It is a question difficult to answer when the sample is a period of time. If farms are selected at random out of a homogeneous area, the chances are good that another sample will be much like the first. But there is no random sampling out of a homogeneous whole in time-series studies. The period to come may easily be as different from the present as the farms would be if one went across the river onto sandy soil for his second sample. The probability that the same variables will describe the new period as the old is, therefore, a matter that cannot be determined by any mathematical procedure—it must be reasoned out on the basis of economic and other related facts and principles. At this point, the question of causation enters. A coefficient of correlation of itself is no proof of causation, although a high coefficient well founded on adequate data strongly supports such a theory. The tendency in correlation analysis is to include more and more vari-

ables, try out different amounts of lag and different methods of averaging and systems of weights, until some combination is found that gives the highest possible coefficient. The chances are very good, however, that this very process will introduce some elements which are purely accidental for the period in question and will not describe any later period. What is needed at this stage is a careful study of each of the variables and the conditions associated with them to see which of them have the aspect of general applicability to the universe being characterized because based upon reasonable theories of causation. Whatever forecasting is done had better be done in terms of these universals.

2. It takes a very high coefficient of correlation indeed to furnish a basis for a very positive forecast as to any one year. The probability above described is for some other period as a whole. One year can be very widely off and yet the period as a whole may closely duplicate an earlier one.

3. The whole Pearsonian analysis is based on the assumption of normal frequency distribution. Economic data rarely take this form. How valid coefficients of correlation and probable errors are under such circumstances is always problematical. Moderate skews probably do not seriously affect this validity.

4. A very great deal that is worth while can be done using only simple methods of analysis. Plotting the individual items as double frequency scatter diagrams using all reasonable factors as independent variables will give a first approximation to the desired results. Plotting these independent variables against each other will suggest the extent to which they co-vary. The data of the dependent variable can then be adjusted for variations in the variables that have no significant interrelation—as they also frequently can for such variables as changes in the general price level, changes in the population, in imports and exports, and in transportation rates. Sub-sorting and cross-tabulation can also be used to good advantage either alone or in conjunction with the graphic methods just described.

5. For much more of the price analysis than is ordinarily supposed, the period of years for which data are

available is too short to warrant much use of Pearsonian correlation analysis. Surely it is preposterous to make a multiple correlation analysis of a 1920 to 1926 period using annual averages. Surely much more grace would accrue to an analysis of such a set of data in the following language: "After making allowances for changes in the price level and in population, it appears that in five years out of seven, a large crop of ——— was accompanied by falling prices, and a short crop by strongly rising prices, and in the remaining two years the crop was only a little above or below normal, so that the small changes of prices in the opposite direction are not highly significant. It also appears from the chart that the larger the departure from normal in crop, the more pronounced the price movement." A 15-year period including the war years is in most cases too short to warrant much refined analysis whenever the problem is such that only annual averages can be used. If the problem can be so stated that monthly data can be used, a shorter period will suffice. If the co-variation of prices of a product and business cycle movement is being studied, it must be remembered that the unit in the latter variable is really the cycle and not the separate years.

6. Even where the period is long enough to warrant refined analysis, it is highly advisable to begin making a careful graphic and sub-sorting analysis. This will save time in the end by insuring against a great deal of blind wasteful time-consuming multiple correlation analysis, will assist greatly in the understanding of the multiple correlation results obtained, and will always serve as a needed check upon them. Nothing in the field of price research is more to be lamented than the tendency which certain workers have to rush into correlation analysis without careful preliminary examination of the data.

7. Equally to be regretted is the habit which some have of blind promiscuous correlation before a careful deductive analysis of the problem has been made.

8. Research workers who are not familiar with the technique of Pearsonian multiple correlation analysis, or who do not know the philosophy of it, may play with it if they wish, but they should never depend upon the results they

obtain from it, especially their interpretation of them. For real work, they had better confine themselves to more obvious methods. An understanding of the philosophy of correlation analysis is more important than ready command of the technique.

In actual practice, much of the analysis of seasonal movement of prices is included with analysis of long-time movements. But seasonal movements had been analyzed a great deal long before the careful study of year-to-year movements was begun. It has been customary for marketing studies to include an analysis of seasonal movements. The technique in these marketing studies and in the early multiple correlation studies was simply to average monthly prices over a period and then assume that prices would each year follow such a course. It is obvious that they do not always follow such a course. Although in most years they start low and work higher, in many years they reverse this. A more usual method today is to forecast the price of each month separately. Visible supply of corn affects prices differently in different months. Under the old method it was assumed that if prices started at a higher level than the average predicted for the year, making allowance for normal seasonal variations, they were due to decline later in the year. But this often did not happen. With the new method, the new developments each month can be used in predicting the future course of prices during the season. Conceived on this basis, the seasonal analysis and the year-to-year analysis merge into each other. This is especially the case with products coming continuously on the market, such as hogs or dairy products. It should perhaps be pointed out that Professor Green's work is almost entirely on this basis. What he is trying to determine is the probable course of prices in the week, month or months just ahead.⁴

There is always danger in such cases that the method used will sink to the level of "doping the market." No doubt there are agencies in many markets powerful enough to influence their trends over considerable periods. The

⁴ Dr. Working has pointed out after reading this paragraph that the correctness of the method depends upon the nature of the product, whether it is like potatoes, or wheat, or milk.

objective of the scientist is to isolate such influences. Elementary types of analysis may largely fail to do this. In general, the shorter the movement studied, the more difficult it is to put the analysis upon a scientific basis.

Recently considerable attention has been given to the problem of forecasting the price at which prices will open at the beginning of a crop season. This is a phase of seasonal analysis that involves combination with year-to-year analysis. Studies of the sort first described either wait till a month or so of the new marketing season has elapsed, or else, as already explained, assume that the price will start at an average distance below the forecasted yearly average.

Future work along these lines will include the following: (a) Further analysis of already collected or readily available data. There is considerable of this yet to do. (b) Adding new data to the analysis as each year goes by. (c) Collecting data of the past and including longer series in the analyses.

Of studies strictly limited to very short-time fluctuations in prices, the best example is one started by Dr. Waite at Minnesota called "Prices in the Market Place." The objective here is to explain the smaller fluctuations from hour to hour in the market place and between different parts of a large market. The methods used until recently were mostly in the nature of observation. Just now, use is being made of the device of constructing daily, and if need be, hourly frequency distributions of sales in the livestock market. Abnormalities in these distributions point to abnormal influences, which it is hoped can be examined more carefully. Almost needless to repeat, research of this type is especially difficult, and new developments in technique are much needed.

Cash vs. Future Prices

All that will be done under this heading is to introduce the subject and indicate that some work has been done upon it especially by those who have been studying wheat and cotton prices. The Grain Futures Administration has already published one study in this field, and a considerable program of research is under way. Dr. Holbrook Working is necessarily giving attention to the problem as part of his

exhaustive study of wheat prices. Probably all the studies of speculation on the grain and produce exchanges should be included under this head.

Margin Studies

Some years ago the New England Research Council and the New York Food Research Council fostered studies of margins on produce in the Boston and New York markets. The results were published only in mimeograph form. The Bureau of Agricultural Economics at that time also published a few releases on margins for potatoes and a few other products. The studies of the New York market are being continued. The two most recent studies which have been published are New Jersey's and Minnesota's of margins on locally grown fruits and vegetables. In these two studies data are collected from retailers and dealers and analyzed by type of store, type of product, size of package, type of customers, percentage of waste, and season. Cornell has a number of interesting studies of this type under way, notably one by Professor Ladd on the margins between prices of horses to raisers in Nebraska and buyers in Vermont. Professor Warren's work has related principally to shifts in margins, a field offering many opportunities for further useful work. The most promising new approach to problems in this field follows the line of separate price analysis for each type of market—e.g. developing separate demand and supply curves for farmers', dealers', and consumers' markets.

Market Differentials

Zapoleon's studies of the geography of prices of wheat, oats and corn were the first on this problem to appear. Dr. Working's article on potato market differentials in the October, 1925, JOURNAL OF FARM ECONOMICS marks the second step. Holt of Minnesota is still following this lead, co-operating with the Bureau of Agricultural Economics. Unfortunately the data are proving to be sadly inadequate in this case, particularly on the score of quality of the product. The studies of variations by local markets, of which Missouri's is a type, should throw much light on the extent and

nature of local competition. The theory of market differentials is discussed most fully in Dr. Working's article above mentioned, in Professor Frank A. Fetter's article in the *Quarterly Journal of Economics*, May, 1924, and in the chapter called "The Geography of the Twin City Market" in the recent publication by the University of Minnesota Press called "The Marketing of Farm Products—Studies of the Twin City Market for Farm Products."

Market Grade and Class Differentials

Of the studies which were reported as including especially a consideration of grade and class differentials, those of Professor Spencer and Professor Scoville of Cornell, of New York apple prices by grades, sizes and varieties, and those by Waugh in the Boston market, are most conspicuous. Many price, marketing and commodity studies have included this as part of their problems. Sometimes it takes the form of quality differentials. Such analysis furnishes the economic basis for any system of grades and market classes, as well as assisting greatly in studying market differentials.

Necessary Price

Assuming the propriety and desirability of fixing a price for a farm product, the research problem involved is that of determining a price that will not bring forth so large a volume of production as to depress the price again—in other words, a price that will approximate the stabilization of production. In a constantly changing economic environment, it is apparent that no price will ever accomplish this desired end exactly or permanently; but it is entirely possible that some price can be found that will work reasonably well.

Today the approach to the problem of fair price which is being followed is that of the elasticity of supply studies above described. It is recognized that any price selected in this way as likely to stabilize production may prove in practice to be too high or too low. In the last analysis, "cut and try" will be the procedure followed. But a good fit can be obtained much sooner if one starts with a price determined by elasticity of supply analysis.

Requirements for Price Research

It is to be doubted if there is any field of economics in which thorough familiarity with both theory and practice is more essential. I suspect that there are many people in this room who think that they can do really scientific work in price analysis without much of an understanding of the theory of value. I am reminded of an incident that occurred back in 1912 when I visited an iron products plant with a class of engineering students. One of the spectators had been watching a man analyze and report upon the chemical properties of a sample of iron within two minutes after the blast was run. "He's some chemist!" said one of the boys as we were gathered at the exit gate waiting for the gang to collect. "Naw," said the gatekeeper in disgust, "He's no chemist! He's deaf and dumb. He can hardly write his name. They taught him to do that in a few weeks after he got his head cracked open in a booze fight. If you want to see a chemist, go and talk to that German fellow over there who they imported a few years ago, who has already figured out ten new ways to use the smoke from those charcoal kilns."

A reasonably intelligent eighth-grade boy can be taught very easily how to calculate the Pearsonian coefficient and probable error—yes, even the multiple and partial coefficients. That is pure technique, learned by doing the thing over and over.

Really scientific work in price analysis requires that one grasp all the implications of the concepts of supply and demand, the assumptions behind the law of supply and demand, the relation of utility to value and price, the concepts of subjective and objective as applied to value, and the concept of alternative-use value. One must have learned to look upon Fisher's equation of exchange, and the equally axiomatic marginal productivity statement, as mere starting points from which to begin actual analysis. In the elementary course in economics, such axioms as these need to be taught thoroughly. A good comprehension of even these will be all that we can expect of many students in such a course. But I am talking now about scientists and scientific work, which means something as much beyond and different

from these elementary statements as statistics is beyond and different from arithmetic.

On the statistics side, scientific work with prices requires that one have sufficient grasp of the theory of probability to understand the assumptions of pure chance behind the Pearsonian correlation analysis and probable error, and how these assumptions affect the use of such devices in time and geographical series and the interpretation of the results. There must be sufficient grasp of logic so that the difference between causation and correlation is thoroughly understood; also the difference between correlation and coefficients as descriptions of a given period or sample, and inferences from these for any other period or sample. When one reaches the stage where he can look upon a coefficient of correlation merely as the basis for an hypothesis, with most of the real analysis still to make, then one is perhaps ready for scientific work so far as the statistics side is concerned.

Organization of Work

The foregoing leads to the first suggestion relative to the organization of price research, and this is that it be done only by men who are allowed to specialize in it. That was the reason that a special division for it was created in the Bureau of Agricultural Economics. The usual sort of marketing man cannot be expected to do worth-while work in market prices. It calls for much more insight into and experience with the theories of prices and statistics than a marketing organization man can really be expected to have.

This leads to the query as to whether all experiment stations should undertake a program of price research. It will be remembered that only 17 stations were reported as having projects in this field. Should the rest have them? It would seem clear from the foregoing that unless the department is large enough to warrant a price specialist, no comprehensive program in this field should be undertaken. Secondly, it would be impossible for all the stations to obtain men adequately trained for such a program of work if all wanted them. They are not yet in existence. Dr. Stine could tell you with what painful effort he has gradually got together his present little group in Washington. I can

think of no investment of public funds that would be more warranted than helping him to get a few more, if they could be found without robbing somebody else. The business and co-operative world is constantly making strong bids for men with such ability. Under the circumstances, it would seem wise for only a limited number of the strategically located stations to map out extensive price research programs.

But this does not mean that nothing at all can be done in this field by other stations. Let us turn back to our outline of price research work. Any station as soon as it has funds available can begin collecting historical and geographical price data together with all the other pertinent data mentioned. Graduate students even, if given proper supervision, can do this kind of work. Any station can look into the current market situations and assist in putting machinery in motion for assembling proper price quotations for important products in its territory. The statistical method necessary for these types of work relates to frequency distributions and averages, which ought easily be sufficiently comprehended for the purposes named. Given a little more funds and a station ought to be able to compile some price indices describing prices and other changes in its state as a whole, and also by principal types of farming districts if possible. The series should include if possible: price relatives for principal products sold, surplus areas only; composite price of all products sold; price relatives of principal goods purchased, and indices by separate groups and all groups combined; indices of physical volume of sales; indices of the purchasing power of all farm products sold. The statistical theory of index numbers is more difficult than for ordinary averages, but not too difficult for most of the stations.

Given still more funds, a station should single out one product which is important in the state and put a competent person, of the sort described earlier, upon it full time and expect him to do nothing else but study the product, its market, and markets, and keep in touch with all current developments. Minnesota has been studying potato prices pretty much on this basis for six years and the workers there are more convinced than ever that the person work-

ing on potatoes has little time for anything else except perhaps a little teaching on the same general subject. Until we can concentrate in this way on one product, we shall have little to say relative to the probable course of price that is as valuable as the trade itself has to offer.

Of course, it would be inadvisable for several stations all to have a man concentrating on the same product in the same market area. In no field of economic research is co-operation more desirable. One station should be willing to use the results of another for a product important with it but sold in the same market; or should be content only to collect important supplementary data, such as of farm prices in its state.

Stations with large budgets are of course warranted in singling out several products for such specialized attention as I have described.

A further type of co-operation should take the form of having stations located near the central markets collect historical data and assemble current quotations for outlying stations using the same market.

Work of the Bureau of Agricultural Economics

The services of the Bureau of Agricultural Economics in the field of price research will be most useful in the following lines:

1. Collecting current data on prices, average, production, consumption, receipts, carlot movements, etc. Nothing is called for here except an extension of present activities whenever the budget permits it.
2. Assembling in convenient form the data that have been collected in the past. Much highly useful work along these lines has already been done.
3. Collecting foreign data—one of its most especial and most important functions.
4. Constructing index series for the United States as a whole, and for significant groups of states.
5. Co-ordinating the research programs of the States by instigating the right research in the right place.

6. Co-operating with some of the stations working upon major products by helping them obtain needed data and advising as to methods.
7. Filling in some of the gaps, if necessary.
8. Co-ordinating the results of studies of the same product in several markets. This leads to market differential studies, for which the Federal Bureau is best situated in most cases.
9. Studies based upon data to which the Bureau has special access.
10. General studies involving the relation between agriculture and industry, the relation of prices and freight rates, etc.

Obviously this is a program far transcending the energies of the Bureau of Agricultural Economics at present unless other important work is seriously neglected.

General Considerations

Just at the time when there is a trend elsewhere in the social and natural science away from the rather purely mathematical work of Karl Pearson and his school toward Yule, Bowley, Lexis and the Scandinavians, we agricultural economists are rushing more headlong into it. The assumptions behind the Pearsonian analysis are so at variance with the facts of time series data that one uses it altogether at his peril if he is not fully versed in its philosophy. The Pearsonian analysis has much to offer which is of value to us in our work. But it is a dangerous tool to handle. Less mathematics and more logic, apparently needs to be the watchword at the present moment, if we are not to make ourselves ridiculous in the eyes of our fellow social scientists by our excesses in methodology. This statement is not to be interpreted as a criticism of the work of a considerable group of careful workmen in the field of prices. It is instead leveled at some of the younger workers who have recently learned the motions of correlation analysis but little of its philosophy.

Price forecasting has been subject to attack recently. This does not mean that it should be abandoned. It is right-

fully said that ability to forecast is the final criterion of all scientific analysis. But price analysis is so difficult a thing that probably we have been a little premature with our public utterances on the subject. The official records show a good margin of right over wrong for the forecasts of the Weather Bureau. But the public thinks the Weather Bureau is more often wrong than right. The public is not even sold on the values of the crop forecasts. All this means that in the future it will be best to present the results of price analysis less as forecasts and more as statements of the "statistical position" of the product, making it clear that no forecast is intended. The time is coming when price research carried on as here outlined will put the organized farmers of the land on an even basis with the trade in understanding of the market, and when in consequence the fluctuations in prices and production will be considerably reduced. But we have a vast amount of data to collect and new machinery to set up for collecting it before we are generally ready for such a program.

DISCUSSION BY O. C. STINE
BUREAU OF AGRICULTURAL ECONOMICS

Dr. Black presents an excellent analysis of research in prices of farm products. A first survey cannot be expected to be complete. This one does not completely cover the work of the Bureau of Agriculture Economics, and I presume that the work of other institutions is likewise incompletely described. But a complete enumeration is not nearly so important as an analysis of the character and aims of the work that is being done. In this Dr. Black has performed a real service.

With reference to the training that is required and the scarcity of men for work in this field, I wish merely to supplement what Dr. Black has said. Price analysts should have, in addition to a knowledge of agriculture, good training in statistical technique and in economic principles. Graduates in Agricultural Economics generally need additional graduate work in Economics and Statistics to have the proper equipment for this work. On the other hand, a thorough knowledge of agriculture is essential to good judgment in the application of statistics and economic theories to agricultural price analysis. Thoroughly equipped men are scarce and institutions which are not equipped to furnish the thorough training desired should encourage graduates to complete their training at other institutions which have the necessary special courses.

There are many other points in the paper in which I concur, but I shall not undertake to discuss all the points that deserve attention. I shall discuss briefly what is said about the collection of historical price data, the construction of index numbers, and forecasting. As Dr. Black has revised his paper, I must revise to some extent my remarks.

In revision Dr. Black half-way meets my criticism of his former statements concerning the collection of historical price data. Dr. Black seems to think that prices are or may be only a minor factor in shifts in production. It is true that changes in prices will account only in part for shifts in production, but I believe that in many cases they will account for a large part. Proof lacking, I believe my hunch to be as good as his. At the present time the available farm price data are not sufficient to form the basis for an adequate test of the relationship of prices to shifts in production, excepting for a short period. While we have annual data as to production, area and yields from 1866, to date, we have monthly farm price data for only the period 1909, to date. Anyone who has undertaken to use State acreage, production and yield data over a long series of years knows how unsatisfactory are these data. Revision of data as to production, area and yields of crops must go hand in hand with the collection and construction of price series, so that the relations between prices and production, or prices and areas of crops may be studied carefully.

Further distinction should be made between the collection of price data for use in connection with local or regional farm management studies, and the long-time changes in the agriculture of a State. Farm management research has overlooked an important field of investigation in not making a thorough collection of historical price data in areas surveyed. I believe most workers in this field today will admit the desirability and even the necessity of studying farm management historically. A cross-section survey is inadequate. The fact that changes in farm organization are necessary must be recognized. Tendencies can be measured best from historical data as to prices and production. Census returns by counties furnish data as to areas of crops and numbers of livestock for many decades. Corresponding prices are needed. The collection of price data for any such local survey should be thorough both as to prices received and paid by farmers. Dr. Black's remarks about care and thoroughness in collecting price data properly apply to such local surveys. But I still maintain that there is a proper place for a project in every State to collect historical data as to prices farmers receive for the products they sell, to be directly related to shifts and changes in production. The scope of such a project may be enlarged in so far as it is feasible, taking into account availability of funds and time for doing the work.

The discussion of index numbers has been improved. Dr. Black still fails to recognize a proper function for two types of index numbers—one, an index of price change not affected by changes in production or marketing, and the other, an index of prices which multiplied by an index of physical volume gives an index of value or gross income. I cannot accept the statement that there can be no such thing in reality as a price index that is not a weighted average, unless the author means to say that strictly comparable price quotations cannot be obtained for use in an index. The indexes commonly

in use, of course, are weighted, using fixed weights. Changes in such an index, however, are measures of price changes, with more or less significance according to the assigned importance of the commodity with respect to which the price change takes place. This, however, ought not to be confused with weighted average prices—that is, the product of price quotations and quantities in the markets quoted.

I do not wish to argue for or against a purely price index or an index of currently weighted average prices, but merely to point out that the distinction should be kept clearly in mind and that the formula should be adapted to the end chosen. I do not believe that the so-called ideal formula is ideally suitable for either purpose. It requires a tremendous lot of work and the result is neither strictly a price index nor an index of weighted average prices, by which an independently constructed index of volume can be multiplied to obtain an accurate index of gross income. I cannot here undertake an analysis in support of this statement but refer you to a paper read yesterday by Dr. W. I. King before the American Statistical Association. The ideal formula for constructing an index number of income is still to be invented. In the meantime the simpler index numbers which can be constructed, explained, and understood comparatively easily are to be preferred.

In discussing price forecasting, Dr. Black overlooked an opportunity to present the necessity and utility of work in this field and the value of results of the work that has been done. Even though price forecasting has been subject to attack, should we disparage it? While expediency is a factor with which we must reckon, I believe that advantage should be taken of every opportunity for presenting the utility of price forecasts and the possibility of making them. Consideration must be given to the reaction of different groups of people. The vociferous public recently attacked forecasting, but never has the Department received so many letters from farmers, asking for information concerning the probable future of prices as in the past two or three months. This suggests that with a proper amount of publicity to farmers, price forecasting might become popular.

We have had an interesting experience with a formula for forecasting the May price of wheat. This formula provides for estimating in December, or as soon as a reliable estimate of the Southern Hemisphere crops is available, the price for which wheat will sell in May. It has received wide publicity. We know that many traders in wheat are working it, or employing well trained statisticians to do it for them. Are we to refuse to do it for the farmer who cannot do it for himself?

A farmer writes:

" . . . , Okla.
" Dec. 18, 1927

"Dept. of Agriculture

"Gentlemen, I am in need of information which I have been informed you could furnish, of the probable trend of future prices of farm commodities and live stock. Am particularly

interested in the future of live stock industry and especially hogs and dairy cattle . . . any information you can give me will be very much appreciated.

"Very respectfully yours,

".....

"Route 2 Box 16"

In answer to such a letter are we to state only the "Statistical position" and make "it clear that no forecast is intended"? When the statistical position is very simple and the future is very clear, this might be adequate. When it is so complex that an analyst is required to interpret it, are we still to leave the interpretation to the farmer? I believe the time is here when price research can begin to put the farmers of the land approximately on a level with the trade in understanding the market, and "when in consequence the fluctuations in prices and production" can begin to be reduced.

RESEARCH IN AGRICULTURAL INCOME¹

J. I. FALCONER

OHIO AGRICULTURAL EXPERIMENT STATION

The distribution of wealth is a problem which has received the attention of economists for years. Up to comparatively recent years, however, the studies in this field have been largely confined to the way in which the total income is divided among the various factors of production. Little attention was given to the problem of the distribution of the income by groups. More recently has come the realization that problems of importance to the welfare of groups could not be solved by a consideration of functional distribution alone; that the income of almost everyone is made up of receipts arising from the individual's occupancy of more than a single economic rôle, that there are relative few groups who are laborers and nothing else, rent receivers, capitalists, or entrepreneurs and nothing else. Thus it was necessary to compute the income of industries before the problems effecting the economic welfare of the people employed in these industries could be successfully attached.

Again we may note that the economic literature of the nineteenth century largely concerned itself with the problem of speculating as to what should happen under certain defined, but often highly artificial circumstances. The assembling of facts as an accurate description of existing conditions occupied the attention of few students of the early period. Interest was centered in formulating a body of economic doctrine. The twentieth century, however, has witnessed a shift of emphasis to the study of contemporary conditions, and to this end a large amount of detailed descriptive and fact finding work is being and must continue to be done. This is to provide a more concrete basis for analytical reasoning.

As a result of this shift in method of attack on economic problems we find in the past two decades increasing attention paid to studies of the income of different industries

¹This paper was read at the eighteenth annual meeting of the American Farm Economic Association at Washington, D.C., December, 1927.

and groups. Attention was called to such movements as the drift from the farm to the city. A logical method of attack seemed to be a study of the income of those engaged in farming as compared with those in other occupations. The position of agriculture since 1920 has contributed much to the interest in the matter of agricultural income. Decline in property values in the rural districts as compared with urban property has seemed to indicate a shift in the distribution of incomes. All this has resulted in a great increase in recent years, in the number of studies and statements as to the agricultural income.

In 1913 Dr. W. J. Spillman, then Chief of the Office of Farm Management, made a report on the agricultural income, and in 1916 the Department of Agriculture published Farmers' Bulletin No. 746, by Dr. E. A. Goldenweiser, on "The Farmer's Income." In 1915 Dr. W. I. King's book, *The Wealth and Income of the People of the United States*, appeared, and in 1921 the income studies of the National Bureau of Economic Research first appeared. These data were later largely drawn upon in the Report of the National Industrial Conference Board. The Joint Commission of Agricultural Inquiry considered the question of agricultural income in its report of 1921. Since the latter date, for reasons previously mentioned, more widespread attention has been given to agricultural income studies.

In the study of research in agricultural economics in progress during 1926-27, undertaken by the research committee of this association, together with the Social Science Research Council, six projects having to do with the agricultural income, were found in progress. Of these one was that of the National Bureau of Economic Research, which is bringing its earlier work down to 1925, following the same method as the earlier study. In this work the bureau has computed for the United States, by statistical methods, a statement as to the total income and the net income to agriculture, both distributed according to States. Similar data are presented for other industries and occupations.

Another study was that of the Bureau of Agricultural Economics, U. S. Department of Agriculture, which has for the past few years computed a statement as to the Agricul-

tural Income of the United States. Two methods have been employed, (1) a statistical compilation of income and expense, the data derived from various sources, and (2) an annual summary of farm accounts, farm records and an inquiry through crop reporters. From the statistical study three statements have been arrived at: (1) the gross agricultural income, (2) the total sales, and (3) net income. A statement of results has appeared in *Crops and Markets*. The same data, it is understood, are to be compiled by States.

The Institute for Research in Land Economics and Public Utilities published in the *Journal of Land and Public Utility Economics* (May, 1927,) the results of a study the purpose of which was to show the share of the total national income received by agriculture in each year from 1919 to 1926.

In addition to these, Dr. A. G. Black, at the University of Minnesota, submitted a Doctor's Thesis the past September, dealing with "The Wealth and Income of the Farmers of the United States." The thesis is a critical analysis of past studies, and a statistical compilation of the net income of Minnesota farmers from 1910 to 1926. The Iowa Agricultural Experiment Station in June, 1927, published the results of a study of the gross income of Iowa farmers as circular No. 104 entitled, "Income of Iowa Agriculture, 1920 to 1926." The study does not purport to be complete, but covers the gross income to Iowa farmers from ten different products which, it is estimated, comprise 95 per cent of the total income. At the Ohio Station, Mr. V. R. Wertz has in progress an estimate of the monthly cash receipts, the annual cash receipts, total and net annual income of Ohio agriculture since 1920.

Mention should also be made of the frequent compiling of annual statements of farm labor incomes or percentage return upon investment, as shown by the yearly summaries of farm account book records, or farm survey records. This is done in many States. At least 17 States in addition to the Federal Department of Agriculture, already have, or are developing, index series or price relatives for their leading agricultural products.

Agricultural income figures profess to show either the relative success of individual farmers, the income of one period as compared with that of another period, the welfare of the farming group as compared to that of other economic groups, or the state or trend of the distribution of wealth. It is with the latter three objectives that this paper is concerned and in which we purpose to discuss some of the methods used.

The term "labor income" is an income figure developed by farm management workers as a means of indicating the relative profitability of different farms or of the same farm from year to year. It is used as an index of efficiency of farmers, a purpose for which perhaps no better term has yet been devised. It is, however, a highly technical term, the meaning of which is not understood by others than farm-management workers and one apt to be misleading to those who have in mind the usual concept of the word income, as, for instance, the wage received by city workers. The fact that it does not include the value of products furnished by the farm to the family living would alone bar it as a measure of the agricultural income. While the difficulties with the term may arise more from its misuse than from its use, it is, nevertheless true that farm-management workers have been among the most frequent misusers of the term in attempting to report the income of farmers.

It is, of course, not necessary to summarize the results of the year's business as secured from farm account books, surveys or questionnaires in terms of labor income. The Department of Agriculture has published such a summary of incomes as secured by questionnaires each year since 1922 under the heading of Farm Returns. The summary shows receipts less cash outlay, increase in inventory, interest paid, amount spent for improvements and such estimated items as the value of food produced and used on the farm, the value of family labor including the owner's, and changes in real estate values. For the year 1926 reports were compiled from 13,475 farms. The reader is cautioned in the report that the same farmers did not report for each year (in Ohio about 30 per cent of those reporting for the

year 1925 reported for the year 1926), that tenants were not included, and that the farms included are larger than the average as shown by the census. (For Ohio the average size reported in 1926 was 144 acres while according to the 1925 census the average size was 79 acres.)

With this study as with the numerous summaries of farm account book records as compiled by various States a question may be raised as to how representative the sample is. There is sometimes an inclination to draw broad conclusions from limited data. It would seem that these data, provided the sample is adequate, could be used as an index of the movement of farm incomes, but it is doubtful whether such studies have yet reached the scope and degree of perfection where they can be accepted as a measure of the average or total amount of income, or as a basis for comparison with urban incomes. They are, however, yielding a large store of valuable information relating to the distribution of expenses and receipts in different areas—data which are badly needed.

As previously stated 17 States are now compiling indices of the farm prices of agricultural products or price relatives of their leading agricultural products. It is perhaps needless to point out here that these indices are indices of price and not of income, since they do not take into consideration volume which is an important factor in determining the gross or net income. Nevertheless many readers are frequently inclined to misconstrue indices of prices as indices of income and thereby gain false impressions. In agriculture, income, gross and net, for the year is often influenced as much by volume as by price.

The aim of income studies relating to agriculture may be one of many objectives. It may be to determine the total or average income of farmer or it may be to arrive at a statement as to the total income to the agricultural industry. The two are different objectives and should be so considered, and yet they are frequently confused. There are items to be included in the one which should not be included in the other. In the present state of income studies relating to agriculture it is essential to state the objectives in view. A definite and clear aim will usually simplify the

means. Again the aim may be to arrive at the cash agricultural income of farmers, the gross income, the net income, the real income or to arrive at the relative well being of farmers as compared with others.

One of the most usable income figures is that of the gross cash income from sales. It has the advantage that data required for its calculations are as complete and reliable as those used in the estimating of any other type of agricultural income. It represents the amount of money available for spending by farmers. It is a figure particularly serviceable as an index of the extent to which the farming communities will enter the market for non-agricultural products, although, as has been pointed out, this may also be influenced by the amount of the cash income which is required by the agricultural industry to pay interest on indebtedness. Such income figures provide a basis for determining the extent to which general business conditions are dependent upon agriculture, a subject in which there is now an increasing interest. In some studies this cash income has been arrived at by computing the product of quantity sold times price, in others by deducting from all farm products raised the value of the amount used for feed, seed, food or fuel or wasted on the farm.

State figures on the farm marketing basis are as yet difficult to compute because of the present inadequacy of marketing statistics; yet, in Ohio, where the attempt is being made, many hitherto unsuspected sources of data have been uncovered. Especially is this lack apparent with livestock marketings and with some of the minor sources of income. If monthly cash income figures are sought the monthly distribution would of necessity be on a marketing basis.

Another serviceable income figure is that of the net cash income of agriculture. It indicates the extent to which farmers can accumulate wealth or increase their standard of living through the purchase of consumer goods other than agricultural. It represents the cash remaining after the farm dwelling is provided, the food provided by the farm and all farm business expenses, including taxes and interest on investment, have been deducted. It is not com-

parable with the income of urban groups because food raised and consumed and the dwelling furnished have not been included. To be most useful, data for the gross cash and net cash income should be computed on the monthly basis since these figures are useful to urban interests as an indicator of the farmers' buying ability. Annual figures should also be prepared.

The latter figure, net cash income from agriculture, is more difficult to compute than the former, gross cash income from sales, because it necessitates deducting the cash farm expenses—a sum difficult to arrive at. Adequate data for computing income are difficult to find, but those for computing cash expenses are even more meager and incomplete. The census gives feed, fertilizer and labor expenses, and this is far from as much as would be desirable. Such items as depreciation of machinery or the value of board and lodging furnished to hired labor are difficult to evaluate. While other sources of data can be drawn upon in a nation-wide study, for State studies, many of these data are hard to apportion as between States. In some States special studies, as those on taxation, farm indebtedness, etc., are beginning to provide useful information, while an analysis of expenses as shown by farm account book and survey records, provided the sample is adequate, should yield much helpful information for estimating farm expenses.

The income figure which is most sought, however, is that of the gross or the net income, the latter being derived from the former by deducting the costs of operation of the farm business. It is desired as a means of comparing the welfare of farmers with that of other groups of society. It is likewise one of the most difficult estimates to arrive at, since in agriculture no small part of this income consists of goods and services which cannot be readily measured in monetary terms.

These goods and services may be valued either at farm price, that is, at what the farmer could get for them, or they can be valued at what he would have to pay for them if he purchased them in the market. Both methods have merits and each has objections. For many of the services there

is no market in which to establish a price, as, for example, the farm dwelling or the advantages and disadvantages of living in the country. They cannot be accurately valued at what the farmer would pay, for in many cases he cannot buy identical products upon the market. Furthermore much of the goods and services would not be consumed if they had to be purchased in the market. Despite the objections, however, the valuation usually used is that of farm price. When using it, however, its limitation should be appreciated, and it would seem that the proper value to place upon these products would depend upon the use and interpretation which is to be made of the results. It is certain that in many studies where a farm valuation has been used the results have been misused as will be discussed below. With gross income and net income a yearly figure is what is sought for. A monthly figure is not as essential as with gross cash or net cash income.

Net income is the figure most frequently used to compare the income of farmers with that of other groups. It is doubtful, however, if an adequate comparison has yet been made. The two incomes must first be put upon a comparable basis. As previously mentioned, the usual practice is to evaluate the house and products furnished by the farm at farm value when computing the agricultural income and yet in the urban budget these commodities must be purchased at retail prices. The sum totals of the two are quite different.

On a group of farms in Scioto County, Ohio, a study was made to secure data relating to these differences. It was found that the value at the farm of the products furnished by the farm to family living was \$434, that the average rental value of the farm house was \$144. A study was then made of what the same products, as near as could be arrived at, would have cost in the Portsmouth market. The figure finally arrived at indicated that if the same quantity of farm products as furnished by the farm had been purchased in the market they would have cost \$758 or 75 per cent more than the farm value, while a house in Portsmouth, which would have enabled one to live with about the same degree of comfort, would have an annual rental value of \$447. The

farm value of both products and house was \$578 compared with a city purchase price of \$1,205. In other words, the same things would cost \$627 more in the city than they were marked at on the farm.

Here is a fertile field for further study. We need more adequate information as to the real well-being of farm as contrasted with urban dwellers. Before we can properly evaluate the costs, income or well-being we need to know more about the nature of farm living expenses and satisfactions as contrasted with those of urban life; more as to the comparative extent to which a given income on the farm will procure satisfactions to farm people as contrasted with a like income in other occupations. The studies in rural living and farm living expenditures now being carried on by the Federal Department of Agriculture and by several States should prove helpful in this respect. Similar studies should be made of representative groups of city people. We need more adequate knowledge of the income of different groups of urban dwellers.

In several income studies where the net agricultural income has been arrived at by including in income the value of farm products consumed on the farm on the basis of prices at the farm, the mistake has been made of reducing this income figure to the basis of 1913 dollars by dividing by an index of cost of living, usually either that of the Bureau of Labor or the National Industrial Board. It is apparent that this introduces an error. If the products furnished by the farm are to be entered in income on the basis of their farm value, clearly it is wrong to deflate them on the basis of retail prices. If the cost of living index is to be used for reducing this income to the base period, it would be necessary to have included these items in our income statement on the basis of retail price. An index adequate for the purpose had not as yet been made, and it is possible that no single index can be devised for the purpose.

Another difficulty with the indices used for deflating farm incomes or expenses lies in the constant, and in recent years rapid, changes in the elements to be included in such an index. The items which should be included today are quite different from those to be used in 1910. The proportion

of the family living received from the farm has been constantly changing, as has also the ratio of these items to total expense. For these reasons gross or net incomes when deflated with current indices, if the series runs back over any great period of years, are liable to serious error.

In conclusion it may be said that the increasing interest in the problem of measuring the agricultural income has made apparent the inadequacy of the existing data. The present census is especially lacking in information relating to expenses; only fertilizer, feed and labor are reported and the latter two figures are not all that might be desired, since we would like to know how much of this is paid outside the agricultural industry. To these should be added information on interest charges, machinery costs, livestock purchased, automobile expenses and other items. The need of more adequate data relating to farm living expenses has already been mentioned. The crop reporting service could be of much service. Attention has certainly been focused on new fields for research, from which it may be hoped will come the means by which more adequate statements of agricultural income may be prepared.

DISCUSSION BY L. H. BEAN

BUREAU OF AGRICULTURAL ECONOMICS

It is evident from Dr. Falconer's review that progress in research in farm income has not kept pace with developments in price research. With institutions in 17 States engaged in preparing or maintaining State indexes of farm prices, it is surprising that so little has been done in developing measures of farm income by States during a period when much more light has been needed on the economic status of agriculture than is supplied by measures of price changes alone.

At the present time there appear to be only two sources from which to obtain a fair picture of the agricultural situation in recent years. The first is the National Bureau of Economic Research. Its published studies in farm income supply annual data for agriculture as a whole from 1909, to 1921. The second source, the Bureau of Agricultural Economics, supplies annual comparisons for agriculture as a whole for the period since 1919. For comprehensive appraisal of the agricultural situation by States, the sources are even more limited. The National Bureau of Economic Research has published farm income data by States for 1919-21. The Bureau of Agricultural Economics publishes at present regional results of farm returns obtained from

approximately 15,000 farmers who operate larger-than-average farms and are therefore not typical of all farmers in their respective States, as Dr. Falconer has indicated.

The main reason for the lack of more adequate research in farm income by States lies undoubtedly in the meagerness of data. So much essential information on receipts and the distribution of income is lacking that it constitutes the basic weakness and obstacle in this field of research. At the present time anyone attempting to prepare a comprehensive statement of farm income by States would have to resort as much to statistical ingenuity as to reliable data, and this, it is to be observed, in view of the greater volume of information that is now available in the Bureau of the Census, and the Bureau of Agricultural Economics. Progress in farm income will be materially aided when these Bureaus will supply additional data on marketings, consumption in the farm home, cash expenditures for production, and the like.

In this connection, I am reminded of the remarks made yesterday by Dr. Truesdell of the Bureau of the Census before the American Statistical Association, in which he pointed out that the 1924 agricultural census schedule contained fewer questions than that of 1919 and urged that the 1919 schedule be reduced still more. Such curtailment of the schedule might help to solve some of the internal problems of the Bureau of the Census, and it might lead to better enumerations on the fewer questions but for those interested in promoting research in farm income, an expansion rather than a curtailment of the census schedule is to be hoped and worked for. It should be borne in mind that without periodic census enumerations for many of the essential items in a farm income statement, it becomes impossible to check the many estimates that are and promise to continue to be inevitable in any study of farm income.

That such checks on estimates of farm income are necessary will be evident from the nature of the problem. Unlike the income statements for other industries which are readily obtained or available from accounting records, the farm income statement must be based on an evaluation of production and marketings at prices received and on estimates of expenses made from external information rather than a summation of the income accounts of all farmers—accounts which are maintained by relatively few farmers. The ideal method of obtaining farm income data would be through compulsory income reports by each individual farmer, but that being out of the question, the investigator will have to resort to one of two procedures. He may follow the method used by the National Bureau of Economic Research, that of estimating the national farm income by evaluating production and marketings and distributing both receipts and expenses to the various States by methods differing with each item. Or he may first estimate the receipts and expenditures by the States and then by the summation process arrive at the national farm income estimate. The latter method would be preferable to the one used by the National Bureau of Economic Research, but it calls for many more farm income projects in the several States than are now in progress.

The purposes of farm income studies, as Dr. Falconer has indicated, are many and they are likely to influence the results, as well as their utility. One of the main purposes of research in this field should continue to be that of

supplying the basis for an adequate appraisal of the current agricultural situation in the various States. Not all farm income studies lend themselves to this purpose, although they may be adequate for others. If it is desired, for instance, to secure a measure of farm income in the South as an indicator of probable fertilizer sales in the Cotton States, it is possible to construct such a measure from market prices and production, and although it would serve admirably the limited object in view, it would not be useful as indicating the actual income derived from sales. Another example is the work on farm income now carried on by the Federal Reserve Bank of Minneapolis. That work consists largely of evaluating farm marketings or market receipts in terms of selected market prices and its purpose is to relate the money value of agricultural marketings to business and banking conditions in that area. Although such approximations of the money incomes of farmers serve very well that special purpose, they cannot be used as the actual money incomes from which to compute the average farmer's reward for his labor and capital.

In his analysis of the purposes of farm income studies, Dr. Falconer urges the advisability of computing farm income on the same basis as that of other groups when the two are to be compared. One of the problems in such a comparison is that of evaluating the rental value of the farm home and the value of the food produced and consumed by the farm family. Should these be evaluated at retail city prices or at farm prices? I am inclined to the belief that even though comparability is theoretically desirable, it is practically impossible to obtain. Let us take the example presented by Dr. Falconer, that the farm value, \$434, for farm products furnished by the farm to the farm family living becomes \$758, if the same products, "as near as could be arrived at," were purchased in a city market. It would be interesting to know exactly how near to strict comparability that study did arrive. How, for instance, does one compare the farm value of a bruised apple, which is of good eating quality in the farm home, with an apple in the perfect condition required by the urban consumer?

The practical way of looking at this evaluation problem suggests itself from the fact that if a farmer chose to sell all of his product instead of reserving a part for his own use, his income even on the part ordinarily consumed would be determined by prices in his local market and not by city retail prices. Were he to change his mind and buy back a portion of his sales, he would also pay the farm price and not the city retail price. Furthermore, those who criticise this method of evaluating the farmers' consumption lose sight of the fact that if the farmers' consumption of farm products is to be evaluated at city prices, then the city dwellers' consumption of non-agricultural goods should be evaluated at farm retail prices. It seems, therefore, that it is possible to place too much emphasis on this theoretical problem when we should concern ourselves more for the present with devising ways of securing necessary fundamental data and improving those which we now use.

While on the subject of criticisms of present methods, I wish to touch on a point not raised by Dr. Falconer, but presented by Dr. J. S. Davis before the American Statistical Association. Dr. Davis criticised the Bureau of Agricultural Economics for comparing the annual variations in farm income

with industrial wages, both series in terms of index numbers with 1919-20 as 100. The objection here is based on the ground that 1919-20 was a period of prosperity for farmers and that the income data for subsequent years, therefore, appear too low when compared with the relatively high earnings of 1919-20 as 100. This objection implies that farmers alone were prosperous in 1919-20. As a matter of fact it was a year of maximum factory wage earnings which have been well maintained in recent years, and as far as we are able to ascertain, it was not the year of maximum earnings for agriculture. By 1919-20, a very large part of agriculture, as represented by the livestock producers, had already suffered a material drop in prices. Prices of cattle, hogs and lambs were much lower in 1919-20 than in 1918-19, in spite of the reduced volume of marketing. It seems, therefore, that a comparison which takes for a base period a year of maximum earnings for factory workers and of considerably less than maximum earnings for agriculture is not unfair to those readers who are inclined to compare the relative values of the indexes in terms of the base year rather than their annual variations.

"THE LAND GRANT COLLEGE REPORT"

(*Report on The Agricultural Situation by the Special Committee of the Association of Land Grant Colleges and Universities.*)

DISCUSSION BY H. R. TOLLEY

BUREAU OF AGRICULTURAL ECONOMICS

The idea that the Association should prepare and sponsor a report on the Agricultural Situation seems to have originated in the spring of 1927 with the Executive Committee of the Association. On May 5, President Pearson of the University of Maryland, Chairman of the Executive Committee, addressed to each of the member colleges and universities a letter which contained the following statements:

More and more it has been emphasized of late that the Land Grant institutions should be taking concerted action in reference to the agricultural situation, which is a national problem. The present situation which has caused distress to many farmers is comparable to any one of many possible calamities due to economic causes, or directly or indirectly due to insect pests, serious diseases of animals or plants, or some new problem in the field of soil fertility.

After such conferences as have been practicable, the Executive Committee has reached unanimously the conclusion that it would be well for representatives of the Land-Grant institutions to meet and consider the situation and to develop such plans for special study, or such suggestions for remedial measures, as seem advisable. The problem now seems to call for action. Is there any other agency under clearer obligation to give attention to it?

This same letter announced the personnel of the Special Committee:

Alfred Atkinson, President, Montana State College.

Thomas Cooper, Dean and Director, Coll. of Agriculture,
U. of Ky.

L. N. Duncan, Director of Agl. Extension, Ala. Poly. Inst.

F. D. Farrell, President, Kansas State Agricultural College.

Chas. A. Lory, President, Colorado Agricultural College.

H. A. Morgan, President, University of Tennessee.

H. W. Mumford, Dean and Director, Coll. of Agriculture,
U. of Ill.

¹This is a series of papers read at the eighteenth annual meeting of the American Farm Economic Association, Washington, D.C., December, 1927.

F. W. Peck, Director of Extension, Coll. of Agri., U. of Minnesota.

G. F. Warren, Head, Dept. Agricultural Economics and Farm Management, Cornell University.

The committee met for the first time on May 16. They chose Dean Cooper as their Chairman and Director Peck as their Secretary. At this first meeting the committee requested the services of some one who might bring to them the information and data in the Bureau of Agricultural Economics. The request was granted by the Bureau and the assignment was given to H. R. Tolley.

At its first meeting the committee decided that—to quote from the minutes—"its function and scope would be to study, discuss and report upon the agricultural situation in its component economic phases, emphasizing the causes of the depression with facts and sustaining data and with suggested channels of correction."

One of the first acts of the committee was to address a letter to each of the 48 experiment stations asking for a general statement on the economic phases of the agricultural problem and for information on the status of agriculture; the causes of the agricultural depression; the probable duration of the present emergency; and problems requiring attention. Reports were received from 41 of the 48 institutions of the country. In addition to the material from the experiment stations, specially prepared statements on particular subjects were submitted by 36 individuals for the study and use of the committee. All of the data and information of the Bureau of Agricultural Economics—both published and unpublished—were also made available.

The committee was in session at various times during the summer and fall for a total of about 20 days and every member spent many days while the committee was not in session studying the material which had been presented and formulating statements for the report. The report was completed just prior to the annual meeting of the Association in November, 1927. It was presented to the Association on November 15, and the Executive Body ordered that "the report be received and transmitted to the mem-

ber institutions and to others, for consideration as a contribution toward the development of a national policy for agriculture."

The report contains 40 printed pages and is divided into two main parts: (1) The Agricultural Situation, and (2) Problems Needing Attention. The first part is a discussion of the status of the agricultural industry, especially since 1920, and the causes of the present situation. The following problems needing attention are then discussed: (1) Agricultural Surpluses, (2) Land Policies in Relation to Agriculture, (3) Taxation, (4) Transportation, (5) Agricultural Credit, (6) Immigration, (7) Tariff, (8) Agricultural Co-operation, (9) Individual Farm Adjustments, (10) Research and Education, and (11) National Agricultural Legislation.

The report has brought forth a wide variety of comments ranging from the assertion that it contains nothing new or constructive—that it is simply a repetition of things which already had been said many times—to the unqualified statement by the editor of a farm paper that it is the most significant contribution to agricultural thought since the report of the Roosevelt Country Life Commission.

DISCUSSION BY B. H. HIBBARD

UNIVERSITY OF WISCONSIN

It has been aptly remarked that since it is difficult for college presidents and deans to continue research work in the fields of literature and science, they turn their attention to the welfare of society and become economists. In contrast with this generalization it should be noted that the economists who become college presidents and deans, finding themselves out of touch with the vital materials of their craft, become administrators pure and simple. Before expressing either surprise or gratification concerning the entry of this particular body of presidents and deans into the alluring field of economics let it be noted that they make the venture, not alone and unguided, but under the direction of a number of well-known economists. Hence the achievements in the way of discoveries and analyses must of necessity be attributed jointly to the economists and the presi-

dents and deans, the readers making their own allocations of responsibility with respect to results and conclusions.

This report is the third of its kind to appear within a year and a half. The first of the three was called "Agricultural Problems in the United States," put out by the National Industrial Conference Board. The second one, almost simultaneous with the one here to be considered was the report of the "Business Men's Commission on Agriculture." This was the work of a joint committee representing the Industrial Conference Board and the United States Chamber of Commerce.

The first of these three reports, "Agricultural Problems in the United States," by the Industrial Conference Board, is the most elaborate, the most involved and the least satisfactory. This report gives a very excellent series of charts and tables showing the history of agricultural prices in relation to other prices. Furthermore, a formidable array of subjects is listed with the suggestion that they might well be analyzed in connection with a fuller study of agriculture, yet no comment is vouchsafed suggesting the conclusions of the authors with respect to anything that can be done. They admit that the agricultural problem is essentially economic; that it is complex; that it is difficult. They recognize it as fraught with ominous political and social portents. But, even so, they are hopeful. Other problems have been solved; this one must be soluble. Withal, they seem to have studied agriculture from afar off. One idea appears, through iteration and reiteration, to have been uppermost in the minds of the writers, viz: The welfare of industry is inevitably bound up with agriculture, and therefore industry must treat agriculture fairly. What is meant by fairly, is, however, left unsaid. The report is nevertheless a valuable one. It serves to visualize the agricultural situation, and to prove that this situation has received recognition as a national problem crying for solution. As was said of our honored President of the United States on the occasion of an address to a group of farmers a few years ago: "The doctor made a good diagnosis; he left no prescription." The report did leave an impression in the minds of thinking business men which a more satisfying re-

port from interested parties would not, and could not, have accomplished.

In contrast with this report the one recently made by the Business Men's Committee contains a prescription. This report, to the surprise of everyone in the agricultural world, comes out boldly with the assertion that the tariff should be subjected to careful reconsideration with a view to equalizing its effects. This declaration has a sound so unlike the usual mumblings concerning the danger of pulling down, in the contrast with the better plan of pulling up, as to suggest that it must have come from someone entirely foreign to American political atmosphere. It seems to be based wholly on the facts and merits of the case and to be put into unequivocal language. We are advised, urged, to look into the tariff situation and see what it is doing to the different classes involved. The advice from business men has usually been to contemplate the tariff, to appreciate our dependence upon it, and to agree that it should be raised at the next meeting of Congress—next following a presidential election.

Coming then to the report of the Land Grant College Committee it is not surprising to find it temperate, direct and comprehensive. It is sufficiently analytical to be usable, and sufficiently specific to be suggestive and stimulating. Were one disposed to be critical of the document it would be possible to find a few statements which seem a little below the general standard of the report. For example it hardly seems to help the case much to say: "If the farmers received as large a share of the retail price [of farm products] as they did before the war, the general level of farm prices would approach the level of the prices of other items in the cost of living." In this statement is involved virtually the whole question at issue. If farmers received the same proportional share of the consumers' dollar as they received before the war it would mean that the labor scale had not turned against the farmer. This goes back to the immigration act, and elsewhere. Retail prices of farm produce involve manufacturing charges, often related to tariffs and patents. There would be little to be said about freight rates, or customary margins of

profit. In other words if the farmer could get his former proportional share of the retail price of the products for which he has furnished the raw material he would have no great occasion to complain about his economic situation of the present because it would be reasonably good. He would have the money with which to pay for his hired help and for the supplies needed in his business, now costing the augmented figures. The retail prices of farm produce, fabricated or unfabricated, partake of the elixir which transmutes agricultural lead into urban gold. This one "if" is all-comprehensive, but it should lead no one astray.

Of a little more serious consequence is the statement which may or may not be true: "A decline in the general price level would be unfavorable for agriculture because taxes, freight rates, distribution costs and many other costs lag behind declines in commodity prices." This is undoubtedly correct enough if, and when, the decline in the general price level is brought about by a symmetrical decline of all the significant prices used in computing the general level. But many times prices change in ways very different from this. Suppose for instance that the principal decreases in prices should occur in steel, building materials, fuel, rubber and petroleum. The trend would undoubtedly be downward without of necessity involving a decline in agricultural selling prices, especially in respect to such as are dependent mainly on the world market. Conversely, a rise in the price level, while it probably would be of such a nature as to result in shortening the period required for agricultural recovery, might, on the other hand, very conceivably exert an influence in the opposite direction.

Problems Needing Attention

Under this heading come the constructive suggestions, and probably no better general conclusions or clearer statements are to be found than are here expressed. Neither the radicals nor the ultra-conservatives will, however, find much comfort in them. The committee suggests action, but is not ready to throw all discretion to the winds. It is declared that the farmer can do much to help himself by way of effective and economic practices. This will be anathema

to some farm groups, who insist that effective production is already too effective. The responsibility of the farmers acting in marketing groups is emphasized. One undoubted truth here set forth will obviously not be found in the campaign utterances of certain candidates for the presidency choosing to run in 1928. This is: "Other things being equal, an increase in the price of farm commodities will be followed by an increase in its production. A fall in its price will be followed by a decrease in production." Of course the truth of this as it applies to many agricultural enterprises is so obvious as to lead one to call the statement a truism, but even so it is under dispute, and the claim is made that the very opposite is the case. Cycles of production for agriculture as a whole are not visible to the naked eye. There are circumstances under which production is continued at about the same rate in spite of falling prices and perhaps without falling profits. Anyone who cares to acquaint himself with the intricacies of the question should study the rise and fall of cotton and tobacco acreages, or the increases and decreases in the number of horses, cattle and swine in their relation to prices. After which he should correlate the findings with the production figures for corn and wheat, and finally try a summing up of all food and fiber stuff.

The remedy proposed as a cure for the surplus ills is embodied in two very succinct paragraphs, or more accurately in one, and shows the temper of the committee in unmistakable light. The remedy proposed is similar in kind to the remedies applied by people of businesses other than agriculture. In the main it is proposed that surpluses should be brought under control through adjustments of acreages of crops, of numbers of live stock; by withholding new land from settlement, and by the use of storage facilities and sound marketing. Very clearly this is not a quotation from a mid-west politician. The last sentence of the paragraph might, however, be used effectively by an adroit political aspirant. It reads: "The movement toward stabilization and control may be hastened by favorable and sound legislation." Under shelter of this broad-spreading declaration may be found rest and comfort for the most orthodox stand-

patter alongside of a radical too new to classify. Of course the desired end will be hastened by favorable legislation, since otherwise the legislation would not be favorable, and by all means if the outcome is to be sound the provision for it must be sound. Conceding the desirability of the proposal we are all in accord in wanting favorable and sound legislation. Obviously a consensus of opinion is epitomized in this masterful sentence. The good feature of the statement is that in the opinion of the committee something in the nature of help is to be sought through legislation. And perhaps, since the report is not designed for political use, it may be wise to leave, as is done, the type and manner of legislation entirely open. It would, nevertheless, be highly interesting to know at least something as to the character of the suggested legislation other than that it must be favorable, and should be sound.

On the subject of land and its use the committee has done such an admirable piece of work as to make it desirable that the four pages devoted to this topic be assigned as required reading to all agricultural students. Several of the paragraphs contain the suggestions for valuable discussions and lectures. For instance those who are skeptical concerning the ability of the Government to bring things to pass might be impressed by the results of the Government control of grazing in the national forests, where in some instances the carrying power of the ranges has been increased by over 200 per cent as compared with private control of the same land in earlier years.

One question might be asked in connection with the prediction that private enterprise will no doubt undertake new irrigation and drainage projects whenever there is need for more agricultural output. Is there not fully as much danger that private enterprise will take these matters up when there is little if any need for the same, and by high-powered salesmanship induce settlement, to the hurt of all farmers old and new? Surely this has been done in the past. In any case we agree that the Government had best desist in the matter of furnishing new farms below cost. In fact, the committee goes the full length in its declaration that we should have a national land policy by which the future ex-

pansion of the land basis of agriculture may be controlled, extending the control over private initiative.

Equally excellent is the treatment of taxation with respect to both emphasis and proposals. Probably the committee would agree to change the statement, "Those whose property escapes taxation and whose incomes bear no direct taxes, nevertheless enjoy the benefits of government," to conform a little more exactly with the general doctrine that ability to pay is the main reason why these people should be made to help support government, adding as a contributing consideration the further strength of the claim against the shirker that he enjoys the benefits of government, or, if the evidence were at hand, that certain benefits are measurable. In connection with the income tax we do not care much about the benefit side of the question. Quite different is the gasoline tax. Here we sell the use of the road to the buyer of gasoline. Every paper in the country might well copy the following sentence: "Since better schools and roads are so important to the public at large, justice in taxation requires that a part of the burden of taxation now borne by farm property be transferred to other sources of income in the community, and that a larger part of the total revenue be obtained from taxes levied on larger territorial units." It would have been gratifying to many had the committee gone a step farther and suggested that taxes so far and as soon as possible be levied more on income and less on capital valuation.

On the tariff the pronouncements are good rather than excellent. No doubt, as the committee remarks, the effects of the tariff are over-emphasized both by supporters and by opponents. The same can be said of the merits of coeducation, of the use of cigarettes by women, and of the Eighteenth Amendment. Again little can be learned from a mere count of the number of articles bought by farmers on which tariffs are charged, as compared with those on the free list. The President a few years ago declared that farmers' purchases were mostly of the free-list articles. In this he was mistaken. The farmers wear clothes, and use steel. What we would like to know is how much the tariff costs the farmer and how much he gets out of it. While no one seems

to know, and no one does know, it is safe to say that for every dollar gained five are paid out. The committee is firm in one conviction: Wherever the tariff will actually work on a farm product it should be worked to the full as compared with workable duties on the products of other industries. In other words, although the tariff roulette wheel is set against the farmer he should at least make as big a winning when it does favor him as do his competitors who have learned the tricks of the device and play it consistently. We will all agree that the farmer really should not be condemned to draw a double portion of blanks in the tariff lottery, and in addition be subjected to a discount on the few prizes he does get, and that in the interest of his competitors. Then follow a few comments on the undesirability of sudden changes in agricultural tariffs, due to the inability of the farmer to make rapid shifts in his productive methods. There seems to be little cause for apprehension regarding this supposed danger. For one thing tariffs are seldom lowered, and again so few agricultural tariffs are effective that the danger is not in any sense general.

Possibly the most striking contrast, or at least the most surprising one, is found in the respective treatment of the tariff by this committee and by the Business Men's Commission. It has long been believed by the business world that college men were highly theoretical and idealistic in their attitude toward protection and free trade, most of them, especially economists, being free traders. On the other hand business men, eminently practical, are generally to be classed as protectionists, while members of neither committee would be expected to display partisanship it is noteworthy that the college committee is conservative almost to the point of implying that the best tariff policy is to let well enough alone, being apparently much more impressed by the possibility that agricultural tariffs may not be high enough than that other tariffs may be too high. This attitude is in substantial harmony with that of the militant farmers' organizations which show the courage of Spartans in attacking the direct price-control problem, but are practical pacifists when opportunity to enter the lists against defenders of the tariff faith presents itself. The

college committee might possibly be pictured holding the clothes of some brave citizen who would cast a few stones at the tariff, but they have refrained from casting any stones themselves.

In marked contrast, and the more marked because unexpected, comes from the business men's committee the unequivocal declaration: "Protective policies which tend to place artificial obstacles in the way of natural and normal extension of markets for American farm products and which tend to increase the domestic costs of their production should be subjected to careful reconsideration with a view to equalizing their effects." Here for the first time during the past seven years, has a nationally constituted committee, of which we have had a full half-dozen, faced the tariff issue squarely and asked for an impartial casting up of accounts.

While the comments under the caption National Agricultural Legislation will appear mild and inadequate to the advocate of strong-arm methods of agricultural relief, a careful reading will reveal not alone a comprehensive understanding of the situation viewed from a long-time standpoint, but some very clear suggestions as to the proper procedure to follow, viz., the formulation of a national policy including agriculture. That is just what we have not done. We have had a national policy for industries and an effective one, while agriculture has shifted for itself. The committee is also apparently free from the widespread and deep-rooted fallacy that agriculture and industry must prosper together. Attention is called to the wide gaps between agriculture and industries in some of the older countries. Specifically, it is suggested that agriculture is not to be helped fundamentally by emergency measures after disasters occur so much as by plans and provisions whereby disasters may be avoided. These plans and provisions are to be formulated, so far as practicable, free from partisanship and political pressure.

It is gratifying to note that the Land Grant College committee does not ask for special consideration of agriculture on the grounds of its basic and fundamental nature. A great deal of lip-service has been paid the farmer be-

cause, forsooth, he feeds the world. What the farmer wants is pay for necessary work done comparable with the rewards of the non-agricultural classes. He does not ask for anything additional in view of the fact that his goods are indispensable.

Reverting to the proposition that agriculture and industry do not of necessity prosper together it may be remarked that this undoubted truth might well have been given the emphasis of more space and further elaboration. If the experience of the past seven years has served to dispell any of the old fallacies of classic economic doctrine it should serve to wipe out once and for all the much-vaunted fiction that all classes must prosper together. Why must they prosper together? The slave class may have had better table scrap on the plantations of the prosperous than on those of the unprosperous. In more modern times we have learned that the economically powerful exercise a control over those within their power which is not unlike that of the master over the slave, differing in degree only. Labor was obliged to free itself from the freedom which the Industrial Revolution furnished. Economic law does not take as its patron saint the goddess of "even-handed justice" but leaves her to adorn the halls of political law-makers and courts. In the economic world of today the race is to the swift and the battle to the strong. The farmers are gathering strength for the continuance of the class struggle in which they are engaged. The first manifestation of it is in the form of more effective equipment. At the same time they are groping toward political recognition.

If anyone still believes that agriculture and industry must prosper together it would be well for him to answer the question: Why, then, don't they? So long as agriculture shall continue to furnish to the cities cheap food-stuff in abundance, so long the cities may, and probably will, continue to prosper, not exactly by taking in one another's washings, but by exchanging the products of one trade for the products of another.

Agricultural cycles are but distantly related to industrial cycles. Even the miracle of a stabilized dollar will not save agriculture from falling out of step with our develop-

ing urbanization. Agriculture has not the means and devices at hand by which to imitate industry in avoiding the shocks and disasters of unlimited competition, nor the attitude toward a job, with a leaning toward leisure, which characterizes labor. Blind economic law will in its wanderings at some future time bring the farmer within striking distance of an equality with industry and labor, but in order to hold that position, he will have to defend it with a knowledge of economic forces, joined with political acumen and a conviction of the truth that all things come to him who waits, armed and equipped for putting a positive program into effect. The Committee has stated briefly, but clearly, many items of a positive constructive program. It is probably not the duty of a college group to outline political programs, which of necessity become controversial. Certainly all matters pertaining to taxes, tariffs, and transportation bring up controversies as soon as they are mentioned. If the many colleges of the country are ready to furnish information on the subjects discussed in the report no doubt political organizations will be ready to use such information to the benefit of the farmer. What the farmer should learn from these different reports is that after all has been done that can be done to increase his efficiency as a producer, he must develop bargaining power comparable with that of other classes before economic law will seem to work in his favor.

DISCUSSION BY E. H. THOMSON
FEDERAL LAND BANK OF SPRINGFIELD, MASS.

I am reluctant to discuss the report on the agricultural situation by the special Committee of the Association of Land Grant Colleges and Universities because this committee has had unusual facilities and has covered the field so fully that anything I may say will add little to the subject.

My first impression is the absence of comment on the relation of agriculture to industry. If the report on the agricultural situation had been presented any time prior to 1915, I am confident that mention would have been given

to the importance that agriculture bears to industry, to the effect that if agriculture is depressed and unprofitable then the same condition would prevail in industrial lines. In 1921, the depression in agriculture became acute and industry likewise slackened its pace. There was much comment at that time to the effect that the farmer must get back on his feet before industry could revive. This prediction has not come true, however, as agriculture has continued to be much below par in most sections of this country, while industry in late years has been enjoying one of the most profitable periods in its history.

A discussion of this relationship doubtless does not come within the immediate field of this report on the agricultural situation but I did expect to find mention of some of the causes which might, in a way, account for the changes in our economic relationships.

A point which I feel is worthy of elaboration is given in Paragraph 2, Page 12, of the report. The substance of this paragraph is so important that I am going to read it:

"Food products sold by American farmers in 1922 brought 21 per cent above pre-war (1910-1914) prices, but this food was purchased by consumers in cities at retail prices that were 50 per cent above pre-war. In June, 1927, food sold by American farmers brought 49 per cent above pre-war prices but retailed at 72 per cent above pre-war in American cities. The cost of living was 73 per cent above pre-war. Thus, retail prices of food were relatively almost as high as were the prices of other commodities that enter into the cost of living. If farmers received as large a share of the retail price as they did before the war, the general level of farm prices would approach the level of the prices of other items in the cost of living."

This condition is not difficult to understand when the cost of distribution represented largely by wages remains at so high a level. This results in the retail price of foods remaining about on a par with the price of other commodities and the increased cost of distribution being passed on as a deduction from the share which the producer receives. In some districts, farmers situated near the consuming centers have been partially able to overcome this difference

by selling direct to the consumer, thereby retaining the profits of both the producer and the distributor. This group of farmers have had satisfactory earnings even during the past few years. This is one reason why the farm depression has not been so acute in New England as in some other parts of the United States. In New England the cities are large and near together. There is an abundance of good roads and easy transportation and here the farmer performs the function of both the producer and distributor.

The percentage of farmers who are in position to avail themselves of such an opportunity is negligible as far as affecting the whole agricultural problem is concerned, but New England conditions are an excellent illustration of one of the causes why farming has not been more profitable the last seven years.

If the cost of distribution, represented largely by wages, is a primary cause rather than over-supply, what are some of the factors bearing on the industrial situation and hence upon the general wage level? One of these is the greatly improved transportation facilities of the present day. With these improved methods manufacturers no longer build up an enormous surplus of products and wholesalers and distributors buy more and more on a hand-to-mouth basis. As recently pointed out by President Attebury of the Pennsylvania Railroad within the past few years freight trains have been put on regular schedules the same as passenger trains and the movement of a carload of freight from Chicago to New York instead of being an uncertain matter of from ten to fourteen days is now almost a certainty within four days. These greatly improved railroad facilities coupled with transportation by automobile trucks have put merchandizing on a different basis and I believe have been a primary factor in preventing the widespread periods of unemployment and depression in the cities, thus tending to sustain the wage level.

The question of railroad freight rates is discussed at some length in the report but I am inclined of the opinion that the costs of local distribution after the product reaches the market have a more important effect on the price that the farmer receives for his product.

The report properly suggests "There is no one line of action which will bring about uniformly satisfactory conditions in the agricultural industry. A large number of adjustments are required." Mention is made of agricultural surpluses and some of the factors which would aid in overcoming them.

Among these factors are the stabilization of crop acreages and the numbers of livestock, sound policies of land utilization, the expansion of markets both at home and abroad and the development of new uses for agricultural products. All of these are important. I believe, however, that there is one very important factor which has not been mentioned and which for lack of a better name I shall call "farm reserve."

Any adjustment in the farmers' business must necessarily be slow. This is not because the farmer would not like to make such adjustments in more rapid order but because the nature of the things with which he has to deal precludes haste. I have faith in the farmer's being able to adjust his business in a fairly satisfactory manner if he is in position to do so. In my opinion, however, farmers generally have all together too small an amount of liquid capital. From 65 per cent to 90 per cent of his capital is generally invested in land and buildings. The rest of his capital is in livestock, work animals, equipment and a very small percentage in cash or readily marketable securities. What happens, therefore, when a surplus in a certain product occurs or when a crop failure or other adversity comes to the individual farmer? He has his plant and equipment and they must be kept busy. He has his family to clothe and feed. He has his fixed expenses in the way of taxes and interest on his mortgage. These must be met. Most farmers are thrifty and when these hard times come they curtail their expenses, keep their plant busy, and work harder. If a farmer were in a position to discontinue the production of a crop for a year or until consumption caught up with the supply, his actions in many cases would be entirely different. It can almost be said that the farmer's way of getting out of debt is to work harder and produce more. He does this because he wants to pay his

debts and because he has no other alternative. If the individual farmer had a reserve laid by where it would tide him over with respect to his fixed expenses and his necessary living expenses I am satisfied that our farm problems would be more easily corrected. Sometimes we forget that the problems confronting a farmer demand an immediate remedy and while there may be solutions frequently the relief which they may bring is too far in the future to be of any great benefit. Relief which may be had by legislation, by tariff reform, lower rates on transportation, land policies and the like will be most helpful but they do not answer the immediate need of the individual to find ready cash with which to keep his home and continue his farm.

Industrial enterprises which are in infinitely better position to control their output, and which are not subject to the hazards of weather, maintain substantial reserves. These reserves are in liquid form, are available at almost a moment's notice and are supplemented by a strong line of credit. How much more important it is that farmers, handling a business incapable of quick adjustment and with one turnover a year, subject to the most extreme hazards in the way of weather conditions and price fluctuations, maintain a reserve or insurance against these contingencies. Failure to have such a reserve in these days when agriculture is so specialized in my opinion accounts for many of the difficulties which we are discussing here.

It may seem out of order to talk about farm reserves when so many farmers are struggling to stay in business, let alone build up a surplus, but there are some things we can do which will aid materially in bringing about this individual farm reserve which I feel is so necessary.

The first of these is a strengthening of our country banks in the agricultural districts. The country bank is the reservoir of the farmer's liquid capital. It is to these banks that he goes for advice as to his investments and to a certain extent he places his savings in these banks. Many farmers may show a considerable net worth but if all of their capital is tied up in their plants and the only way they can get cash is to produce something to sell then they

are compelled to do so whether it is the right step or not. Still more important is the closing of a country bank in an agricultural district for it not only ties up the funds of the solvent farmer but prevents him from obtaining needed credit from the one source from which he most logically has a right to expect it. In my opinion bankers have little right to criticize the farmer's business until they have first demonstrated a way whereby the hundreds of country banks in our farm districts can be kept in a sound and liquid condition.

I think the report of the committee should have given more attention to the question of the stability of local credit resources.

The second step in building up the farmer's reserve is to encourage the use of collateral credit. It has been my observation that very few farmers use this form of credit which is so common with merchants and others. For instance, I have in mind a potato grower who for years was accustomed to buying his fertilizer on credit, even though at times he had cash in the bank to pay for it. A couple years of very low prices and poor crops placed this individual in a serious financial position so that he was compelled not only to pay exorbitant rates for emergency credit but came very near to losing his farm and home. Fortunately, the tide turned and this difficult period was followed by two years in which he had splendid crops which he sold at excellent prices. After paying his immediate debts the first thing he did was to purchase \$2,000 worth of Federal Land Bank bonds from the proceeds of one of his good years. These bonds being tax-exempt paid him 4½ per cent net. The next year when he came to buy his fertilizer he offered these bonds to his local bank as collateral for a six months' loan which he easily obtained at 6 per cent. He needed no endorser and had no embarrassment in obtaining such a loan. I need not calculate for you the saving he made by being able to purchase his fertilizer for cash and the peace of mind he had through this easy credit arrangement. This was a new experience to this man and it is a practice which in my opinion should be extended. Of course such a step involves an accumulation of a surplus

but there are many farmers who have a surplus of funds in certain years. Often, however, such funds are invested in securities which do not constitute good collateral for bank loans or are invested in more land or in mortgages. They fail to realize that a liquid asset greatly strengthens their organization. Not only does it strengthen the farmer to have such collateral but it also puts the local bank in a stronger position.

The third step in this farm reserve program is the use of a form of farm mortgage credit that recognizes the ups and downs of the farm business. Briefly this means a plan of payment whereby extra payments on principal may be made in the good years and the fixed installments thereby lessened in the poor years. The Federal Land Bank of Springfield recognized this need and introduced such a form of long term mortgage payment this year. I am glad to say that this plan has met with success and fully 90 per cent of all of our long term loans this past year have been made on this basis. It is much more elastic than the plan first used by the Federal Land Bank and is especially adapted to those districts where the farm income is subject to wide variation.

DISCUSSION BY THEODORE MACKLIN

UNIVERSITY OF WISCONSIN

Both the report of the Land Grant College Association and the discussions of it have been very interesting. A few added moments of discussion, not to criticise but rather to comment upon a seemingly overlooked point of importance, may not be out of place.

If agriculture is to be readjusted, those changes which must come can only be induced by the establishment of right economic incentives, whose effectiveness is the instrument to cause the change. This effective incentive is created by prices that actually pay the farmer according to the qualities of the products he delivers. Without the payment to him of prices according to quality the farmer labors merely for quantity of crop or livestock, and not for

those definite qualities of each which alone are the uppermost consideration with consumers. The flat price, meaning the same pay for all qualities of a commodity, destroys incentive. It defeats the consumers' will so far as production is concerned and prevents the intentional adjustment of production by farmers to meet consumption requirements.

Economic incentive is the spinal column, as it were, of the agricultural operator. Without effective incentive the operator, the farmer, cannot feel the nerve impulses of his industry. He cannot secure the impact, the stimulating, reorganizing inducements of consumer preferences. Lack- ing any economic incentive that records in their minds what the consumers' mind really is, how can farmers so order their work that consumers may be exactly satisfied, their wants met?

It seems strange that this vital economic concept has been overlooked by the report. Yet it is of vast importance to the industry and its individual components. Its place may well be illustrated by comparison with the tax problem which the report stresses. In connection with the tax situation the report refers to inequalities in taxes and the need for equity. It may not be amiss to recall that the Boston Tea Party and the subsequent Revolutionary War for independence sprang, in no small degree, from the inequity of taxes determined without representation from the taxed, who thereupon rebelled against the injustice. Yet the tax issue represented inequities with regard to that small portion of the farmers' income which taxes absorbed. This was well within a fifth, or even a tenth, of their income. But in this problem of right economic incentives for agriculture the major part of the farmers' income is involved. In this phase farmers receive as a rule flat or uniform prices for a commodity regardless of its quality components. As an injustice this presents a paralyzing inequity affecting most of the farmers' income, whereas the inequity of the tax situation caused by unequal taxes applies to only a minor fraction of their income.

If the Land Grant College report favors research and action in the tax problem to bring to pass a proper equili-

zation of taxes for example, how much more important would it be for the same report to give emphasis to this vastly larger economic problem of creating proper and effective economic incentives by eliminating the equalized or flat-price system in favor of justice that pays for quality and makes readjusted agriculture a possibility?

It may not be amiss to call further attention to this matter by stating that the Bureau of Agricultural Economics is making an inventory of raw cotton which gives the quantity by class, grade and staple. It is, moreover, conducting studies that show the milling uses and values of each grade and staple. Farmers today receive flat prices for their cotton regardless of what the bale contains, this being the result of business-unit competition among those assembling this article. Not until farmers are paid unequal prices for unequal cotton, in other words prices that offer effective premiums for high quality and discouragingly low returns for poor quality, are they induced to breed and cultivate cotton to meet mill requirements. It will be fine to know cotton by mill uses stated in grade and staple. It will be finer still, and this is the vital point to agricultural readjustment, to have farmers paid for their cotton on this same basis. Then the cotton breeding and growing work will be induced along lines that meet market needs and that eliminate the needless portions, the surplus element.

That a system of grading, accompanied by payments graduated according to quality, readjusts the forthcoming supply is amply demonstrated by the experience of co-operative butter producers. It has been conservatively estimated that not more than 10 per cent of the butter of co-operative creameries in the midwest would score 93 prior to 1924. About one-third of the co-operative creameries of the midwest formed the Land O' Lakes Creameries, Inc., and started selling in 1924. The organization adopted a strict system of State-Federal grading and inspection, and upon this basis paid for the butter received. The price differential of one-half cent per score-point for butter enables the creamery to know what to aim at in production, and the spread of 3 to 5 cents per pound butterfat between clean-flavored sweet cream and sour cream gives the farm-

ers an opportunity to make their choice and produce accordingly. As a result of this system the percentage of 93-score butter made by these creameries has risen from 10 per cent before coöperative selling to 45.46 per cent for the year 1925, 58.14 per cent for 1926, and for 1927 gives promise of reaching 65 per cent 93-score. Probably this is the best instance for which facts are available to indicate the effectiveness of right economic incentive upon the readjustment of production.

As a result of this system of grading and paying member creameries for their butter according to score, Land O' Lakes Creameries, Inc., has decidedly affected not only the current standards of competition but the attitude of disturbed competitors as well. The great opposition to this sort of program indicated by the Agricultural Trades Economic Conference held in Chicago, November 30, 1927, is testimony on the effectiveness of coöperative marketing work which puts these principles into daily practice. That this meeting brought forth action to form a permanent body to be known as the Federated Agricultural Trades of America opposed to forces making for coöperative headway is the strongest evidence that effective coöperative organization by farmers to sell their products on the basis of grades, with payment accordingly, is a real success.

BOOK REVIEWS

The Condition of Agriculture in the United States and Measures for its Improvement. Business Men's Commission on Agriculture. Published jointly by the National Industrial Conference Board, New York, and the Chamber of Commerce of the United States of America, Washington. 1927. Pp. xii, 273. \$2.50.

This is the report prepared by the Commission of ten business men that was appointed to follow up the report of the National Industrial Conference Board on agriculture. The assignment to the Commission was to prepare on the basis of this report a program of action for the relief of agriculture; but it has not been content with this—it has attempted to describe the present condition of agriculture and present the causes of the agricultural depression. This is Part II of the report. Part III consists of nine chapters each supporting one of the nine recommendations of the report. Part I is a summary.

To appreciate properly this report, one needs to know some of the circumstances connected with it. The ten business men are high executives in important manufacturing, financial, and other enterprises. On the surface, there appears to be no indication of their being selected because of views favorable to agriculture. Their economic adviser, until he left for Europe late in August, was Professor Frank D. Graham of Princeton. After that, the economic staff of the National Industrial Conference Board probably did the advising. The Commission purposely avoided employing an agricultural economist, feeling, to use their own language, that all these were already committed to particular theories of farm relief.

Let comment on Part II of the report begin with the statement that there is far less assurance of final truth in its conclusions than in those of the first report. The Commission says repeatedly that it has found the agricultural problem exceedingly complex and difficult, refers ever and anon to "deep-lying ills" which it but vaguely sees, and calls for more facts and research as to the fundamental conditions in agriculture. Other creditable changes are the complete omission of the former analysis in terms of agriculture's share of the national income, and a proper qualifying of the pecuniary comparison of urban and rural incomes (pp. 56-9). The idea that agriculture improved up to 1900 and then took a turn for the worse, so conspicuous in the first report, seems to have been abandoned, but in its place appear Charts A and B, which by statistical necromancy cause agriculture to take its turn for the worse in 1914. This is the result in Chart B, reproduced from the "Agricultural Situation" of last June, of the using of a moving average to locate a trend—always a dangerous procedure. The extreme drop from 1919 to 1920 causes the eleven-year average to turn down in 1914-15. In Chart A it is the result of arbitrarily breaking off in 1914 two trends that clearly continue to 1919. There probably was one kind of turn in agriculture at about this time. Our present era of agricultural expansion seems to have dated from 1911. The index for physical volume of agricultural production for 1911 and 1912 was probably seven points higher than that for the two

preceding years. But there is no evidence of rising unit costs or declining incomes. The data of Durand and Thomas, credited by them to the U. S. Department of Agriculture, show an increase of 20 per cent in output per worker during the decade of 1910 to 1920, as compared with their only 4 per cent for manufacturing, mining, and railroad transportation combined. It is since 1919 that industry has gained on agriculture. According to the figures, there was in this period only an 18 per cent increase in output per worker in agriculture as against 35 per cent for the other three combined. (Thomas himself questions whether the latter figure is not in excess of the facts).

Why all this effort to find some other turning point than the obvious one of 1920? Is it an attempt to be subtle? a part of their attempt to locate some "deep-lying causes"?

More startling is it to learn that the real costs of agriculture were rising, relative to industrial costs, in that long period from 1837 to 1900 when the fertile free land of the West was forcing eastern agriculture into decline, and machinery was so generally supplanting hand labor in farming (p. 47-48). The evidence for this is that the purchasing power of farm products was rising (Chart C). Of course almost any ordinary economist encountering this phenomenon would say that it indicated an increasing scarcity value of farm products and land. If it were due to rising costs, land values would surely not have risen as they did. We can be sure that Professor Graham is not responsible for this bit of reasoning—it is too much like some of the analysis in the first report.

Their discussion of the causes of the recent agricultural depression is well balanced and sane.

The best way to present their recommendations for farm relief to readers of the Journal is to compare them with those of the Committee of the Association of Land Grant Colleges. On the tariff they are not content with the nearly futile suggestion of the Committee that tariff rates on farm products so far as effective be raised to the same level as those as on manufactures. They positively propose, albeit in not too open language (p. 175), that rates on manufactured products be gradually reduced until a point is reached where industry and agriculture are equally subsidized. Following this, tariffs are to be removed from both industry and agriculture except on products which the long-run interests of the country require that we should produce enough of to meet domestic needs. The philosophy of the Commission, however, is not that of the free-traders; it is instead that of thoroughgoing mercantilists. It believes that the tariff in its turn has done us great good by building up our industries, and now it is time that it be used to lift agriculture out of the mire and check our too rapid urbanization. This can only be done by lowering the rates on manufactured goods. There is the definite suggestion that our livestock always be protected because it conserves the soil resources.

On the surplus question, the Commission definitely proposes a "Federal Farm Board" and a system of quasi-official stabilization corporations, with power eventually to buy farm products at a price announced before the date of planting. The Committee report talks vaguely about "unified action" in handling surpluses. On agricultural readjustment, the Committee is to be

congratulated on its statement in respect to diversification and specialization, whereas the Commission is somewhat confused, apparently influenced by the popular type of pronouncements on the subject. Both see an agricultural revolution under way. The Commission unequivocally favors larger farms, more extensive methods on the poorer land, but power and capital goods intensive, not labor intensive.

On forestry, the Commission recognizes the necessity of Government ownership and operation in the present emergency, but inclines to private forestry as fundamentally the better policy in the long run.

The two reports are both commendable on land utilization, the Commission definitely proposing a "National Agricultural Foundation" outside of the departments of the Government to direct the job of land classification, land development, and land settlement.

On immigration, the Committee's report is somewhat confused and inconsistent, and the Commission is probably mistaken in its emphasis. The differences in quantities of food consumed whether the immigrants remain in Europe or emigrate to our cities, and likewise in the quantities of food they produce whether they remain in Europe or emigrate to other countries, are not important enough to figure largely in the problem. Nor is it reasonable to assume that all remain in cities if they come to the United States and all go on to the land if they migrate to other countries. A surprising percentage of our new and re-possessed farms of the last two decades are operated by foreign-born farmers. The Committee's report states that the farmer's "economic" interests are in cheap foreign labor for farming—though only a few pages before it talks about overproduction and the failure of the rural population to shift to cities rapidly enough. "Economic" to them apparently means "in the very short run and in the individual case," not at all an unusual definition of the term. It should be made clear that both reports finally favor keeping up and even extending the immigration barriers.

The rest of the comparison may be summarized by saying that the Commission stresses much more and very properly the weaknesses of our country banks, and sees much less possible improvement in our marketing system. The gains from co-operation are to them largely at the production end. The Commission can at this point be properly accused of unintentional bias. There is evidence of similar bias at a few other points, probably in its failure to see the need for a larger unit than even the State in tax support for roads and rural education; possibly in its stress on efficiency in production, some would say, without ample provision for keeping output within bounds. But the recommendations are on the whole so free from evidence of such bias, also of evidence of the kind of compromising that is usually characteristic of committee reports that it is hardly decent to single out a few instances to the contrary. Part III is so well done that it can be used as a text in courses devoted to questions of agricultural policy.

Now let's have the Chamber of Commerce introduce some bills into Congress covering its recommendations on the tariff, surpluses, credit, land utilization, support of research, immigration, forestry, and then get behind them as hard as it has behind its Federal tax reduction program.

John D. Black

Harvard University

The Marketing of Farm Products. H. Bruce Price, Editor. Minneapolis; University of Minnesota Press, 1927. Pp. xii, 435. \$3.50.

Any book on the problems of agricultural economics containing contributions from members of the staff and students of the Division of Agricultural Economics of the University of Minnesota, deserves attention. The men of this group have given much thought to the subject and valuable criticism of the work of others in this field. One is naturally interested in the contributions which they offer in the form of this most recent book.

"This series of studies presents a description of the Minneapolis and St. Paul organization for marketing the principal agricultural products for which these cities are a wholesale market. They represent the results of preliminary investigations undertaken in the Twin Cities by the Division of Agricultural Economics to furnish the necessary information for further study of the fundamental factors affecting the efficiency of marketing. The presentation is, therefore, largely descriptive of the type of the agencies engaged in the distribution of the different products and the external relations of these agencies to each other."

That statement of the editor of the book sets forth the purpose of the studies which were made by the faculty and graduate students in the Division of Agricultural Economics. Most of the studies "originated in a seminar in marketing organization."

We must recognize that we are still feeling our way in the field of teaching agricultural economics and marketing. Until recently, the instructors in our colleges had very little knowledge about or contact with marketing organizations or processes about which they desired to teach. It is fortunate that the faculty of this division recognized the necessity for and the possibilities of working in the great laboratory of the market-place to secure a foundation for its teaching. The students assigned to these tasks did their work well and made very good reports. The contact with operating market agencies gave them an insight into the problems which could not be secured in any other way. These reports show the value of this method of teaching. The purposes of this series of studies were, without a doubt, accomplished.

On the other hand, this collection of commendable seminar theses on the different phases of a restricted market should not have gone out under the broad title of "The Marketing of Farm Products" nor should anyone expect them to serve as an adequate textbook in marketing as indicated by the following statement on the cover jacket: "The book is designed as a text for use in Smith-Hughes high schools and in college classes in agricultural economics."

A book to be suitable as a text for beginning students should, at least, explain the common terms used. The education of the student will not progress very satisfactorily if such a word as 'pool' is used without explaining its meaning. On pages 97-98, in speaking of co-operative marketing the author says, "The state association, in turn, arranges to advance its members 75 per cent of the market value of the wheat at the time of delivery, and further advances are made from time to time as the grain is sold, the final payments being made at the end of the season when the

pool is closed.'" The statement might be sufficient for one who knows about pools and how they operate, but surely leaves much to be desired by one who is just starting the study. After reading the statement on page 134, the student will surely have no clear understanding of the purposes, methods of handling, or limitations of a pool. Very little more, if any, is done for the student on pages 328-333, except to confuse him by the introduction of two pools and the intricacies of butterfat differentials.

This book presents some interesting studies which have been done very well. The original purposes, no doubt, have been accomplished. While it is not suitable for use as a text, especially not for beginning students who are unfamiliar with market terminology, it will be found valuable as a book of readings. The treatment is not sufficiently wide nor adequate to carry the title chosen.

J. T. Horner

Michigan State College

These Changing Times, by E. R. Eastman, Editor American Agriculturist; New York, Macmillan Co., 1927.

If I had picked up this book and dipped into it without noticing who the author is I should have attributed it to my good friend, the late W. H. Collingwood. It breathes the spirit of his Hope Farm Notes. There is the same frank discussions, kindly sentiments and deep understanding, not only of human nature, but of human problems as they exist on the millions of farms in this country.

The book shows profound knowledge and a keen appreciation of the problems of agriculture. The author does not view these problems as an outsider. His long experience in farming and intimate contact with various phases of agricultural activity enable him to think as a farmer.

The book is easy and delightful reading. Easy, because it is written in the language that all of us understand. Delightful, because of the grasp it shows of the subjects handled and because of the courageous but at the same time conservative discussions of the changes that have gone on in farming during the past quarter century and of the problems arising out of these changes.

We are all, of course, aware that farming is changing more rapidly now than it has ever done in the history of the industry, but it is impressive, indeed almost appalling, to see these changes marshalled in a single phalanx, as is done in this book.

Each of the twenty-one chapters deals with an important phase of agricultural history, with the development of some branch of farming in recent years, or with some great problem which now confronts our rural people. It is a splendidly balanced book, written by a confessed optimist, but one who does not blink the dark side of the picture, but rather has faith in the ultimate outcome of present revolutionary movements.

The author opens the discussion with a well-worded picture of the vision of a group of pioneers from the Connecticut hills, advancing over the hills and mountains of eastern New York to the vast timber covered tracts then constituting central and western New York. He gives a good account

of the development of means of communication and transportation, and the effect these developments have had on the welfare of the farming community. He deals comprehensively with the effect which the introduction of labor-saving machinery has had and is having on agriculture in general, and he visions still further revolutionary changes as a result of the still more rapid introduction of machinery into the work of the farm.

Several chapters are devoted to the progress that has been made during the past quarter century in solving important production problems, such as the eradication of tuberculosis from cattle, the control of fungus diseases of farm crops, particularly in the orchard, the development of the baby chick business and what it means to the poultry industry. He closes this section of his book with a very thoughtful consideration of the possibilities of corporation farming. He says: "The proposition certainly sounds well—on paper. But it is a strange fact that there have been many trials of corporation farming, the great majority of which have ended in bankruptcy."

He is of opinion that corporate enterprise is not adapted to the farming business. "Without the family, the interest, the advice and the actual work rendered by all the family members, farming could not succeed." He thinks that a general system of corporation farming would be a calamity as it would "reduce to a condition of peasantry the independent individualistic thinking farmer who has contributed so much to the life of the country."

One chapter is devoted to a very sympathetic and understanding discussion of co-operative marketing. He is firm in the belief that co-operative marketing is to be one of the very important developments of the future, indeed, that it has already assumed an important rôle in agriculture. He points out that two kinds of leaders are necessary to the success of the co-operative movement. One is the kind who understands the viewpoints of the members, sympathizes with their problems, knows how to keep their confidence and to keep them in line with the movement; the other is the coldly analytical business manager who is able to make the organization financially successful.

In setting forth the objectives that may be accomplished by co-operation, he says: "It can assure the farmer a square deal and his share of the price established by the law of supply and demand. More than this, it can, through the teachings of standardizing and better quality material, raise its members' return for their products. The problem then of co-operatives, so far as price is concerned, is first to standardize the product and improve the quality, and then, second, to put that quality product on the market at the proper time and at the place where the market wants it at the time."

Another chapter deals with farmers' organizations like the Grange, the Farmers' Union, the Farm Bureau Movement, etc., that are not strictly commercial. In a chapter dealing with farm legislation he points out the many helpful laws that have been passed and utters a word of caution to those who look to legislation as a means of solving problems which can only be solved by time or by the farmers' own individual or co-operative efforts.

The chapter devoted to taxation and that devoted to the country church are those most difficult for an optimist to handle. The solution of these two highly important problems is not easy. He does point out very adequately the situation as it exists today.

Several chapters are devoted to rural education and the remarkable progress that has been made in educational matters in country districts during the past quarter of a century, including the developments of home education.

One of the most interesting chapters in the book is that which deals with the revolutionary movement now going on amongst our young folks, both in the city and in the country. He is not much alarmed by the attitude of the young folks. His faith in the ultimate soundness of their thinking leads him to expect that they will find themselves and that the consequences of the breaking away from the old time restraints will not be serious.

The closing chapter, under the title, "Can a Farmer Be Happy?" is a very delightful one. It does not draw any exaggerated picture of the blessings of rural life, but it deals sympathetically and understandingly with the pleasures that come from right living in the country.

This book should have a profound influence on agricultural thinking in this country. It is a calm, dispassionate statement of the revolutionary changes that have occurred in agriculture, particularly since the beginning of the present century. It gives the reader a hopeful outlook on the future. It will repay anyone interested in the welfare of rural people to take the time to read it.

W. J. Spillman

Bureau of Agricultural Economics

Wood, L. S., and Wilmore, A. *The Romance of the Cotton Industry in England*. London; Oxford University press, H. Milford, 1927. Pp. 288.

The authors aimed "to depict the cotton industry in its setting as part of the history of England, rather than to isolate it for minute and detailed study," and they emphasize the national importance of widespread study of Industrial History. They have succeeded in writing a book about a dry subject quite as absorbingly interesting as many a novel of equal length. American readers may well take time occasionally to get the Englishman's point of view on matters that have concerned both nations, and such matters are many with respect to cotton. Rather few Americans, I take it, appreciate what the cotton famine in Lancashire (chapter ix) incidental to our Civil War, meant to England and particularly to the textile workers. In the matter of "supply of raw cotton" (chapter x), present dependence on American cotton is recognized, but optimism is expressed for the development of supplies in other countries, especially within the Empire. In view of such a statement as "The production of raw cotton in the United States of America has declined, and there does not seem to be much hope of maintaining the 15 or 16 million bales per annum," one wonders whether other statements are based on adequate information or correct appraisal of conditions. Still, in such connections, it is the English point of view that will interest Americans rather than facts which may be checked through other sources. On the whole, there seems to be no reason to question the general accuracy of the historical account.

S. W. Mendum

Bureau of Agricultural Economics

BOOK NOTES

[Heretofore the JOURNAL called attention to new books in the field of agricultural economics through signed reviews. Some books, not reviewed, have been received from publishers. The editors feel that something more may now be done in the way of directing attention to books in which the membership may have more than passing interest. The list and notes have been prepared by Mr. Mendum, largely from books listed in "Agricultural Economics Literature," a mimeographed publication prepared in the Library of the Bureau of Agricultural Economics. The attempt has been to describe the book sufficiently to indicate the nature of the material and the kind of interest readers may have in them. The editors wish suggestions with regard to the development of this new section.]

Agricultural economics society. *Agricultural economics; studies in scope and method.* (Reading: Bradley & Son, Ltd. 1927.) Three have been received:

Orwin, C. S. *The teaching of agriculture.*

Thompson, R. J. *The use of statistics in the study of agricultural economics.*

Street, A. W. *Methods in marketing study.*

American institute of co-operation. *American co-operation; a collection of papers and discussions comprising the third summer session . . . at the School of Commerce, Northwestern University, Chicago, Ill. June 20-July 16, 1927.* (Washington, D.C., The American Institute of Co-operation [1927] 2v.)

"American Co-operation, 1927, like the similar volumes for 1925 and 1926, constitutes the proceedings of a four-weeks' educational conference of leaders in the field of agricultural co-operation. It is our belief that the discussions made available through the publishing of these proceedings give a reliable cross-section of thought in the rapidly developing co-operative movement and should prove a great storehouse of information to all serious students of these problems."—From Foreword of Editorial Board of the Institute.

Colorado. State agricultural college. *History of agriculture in Colorado; a chronological record of progress in the development of general farming, livestock production and agricultural education and investigation, on the western border of the Great Plains and in the mountains of Colorado, 1858 to 1926,* by Alvin T. Steinle, D. W. Working, collaborator. (Fort Collins, 1926) 659 p.

This notable contribution to the agricultural history of the United States contains a wealth of material.

Great Britain. Empire marketing board. *Agricultural economics in the Empire. Report of a committee appointed by the Empire marketing board.* October, 1927. (London: H. & S. Ltd., 1927) 24p.

"References are given in the Report to the organized research work that has been undertaken in various parts of the Empire, but no attempt has been made to give a complete account of the work of individual investigators or of special enquiries."

Horace Plunkett foundation. *A survey of co-operative legislation.* Reprint from "Year-book of agricultural co-operation in the British Empire (1928)." For private circulation only. (London: G. Routledge & Sons, Ltd. 1927) 129p.

This invaluable compilation cites the co-operative laws of 73 countries. The introduction summarizes the principles incorporated in these laws and makes helpful comparisons.

"But the most general and obvious conclusion to be drawn from a study of co-operative legislation is its universal value and applicability, and the fact that this is being realized more and more by the Governments, who are increasingly ready to assist the movement, and, in many cases, to become officially associated with its activities. This process has been most rapid within the last ten years, in which a great speeding up of co-operative legislation has taken place, and it is by no means at an end. Profiting by one another's experience, more and more States are realizing the economic and social importance of co-operation, and are taking steps to place it on the most favorable legal basis they have power to confer." (Quotation from the Introduction)

Northwestern University, School of Commerce, Bureau of business research.

The widening retail market and consumers' buying habits. (Chicago & New York: A. W. Shaw Co. London, A. W. Shaw and Co., Ltd., 1926.)

"In co-operation with a number of colleges and universities all over the country, questionnaires were circulated to students with a view to eliciting the prevailing buying habits of themselves and their fathers, the idea being to find out how far afield consumers went when making their purchases, and how far buying at a distance was connected with the possession of an automobile. Prevailing buying habits of 2,413 students and their fathers were secured and subjected to an elaborate statistical analysis.

"While it is not apparent that this study has led to any novel conclusions, it is satisfactory to have these matters verified by statistical evidence and placed upon record. The chief value of the work lies in its suggestions for the employment of statistics in the elucidation of practical business problems, and it is to be hoped that it will stimulate further inquiries in similar fields." —From a review by "L. R. C." in *Journal of the Royal Statistical Society*, v. 90, pt. 3, 1927, p. 602-603.

Pattee, Richard. *My personal word.* (Baltimore, Md.: The Lord Baltimore Press, 1927.) 203 p.

This volume consists of a series of short letters written to the membership of the New England Milk Producers' Association during a period of ten years. The letters appear to be one of the forces which have made possible the strong association of today. During the ten years covered by the letters, a considerable amount of information regarding the routine workings of the association was given out. Two results of the teachings of Mr. Pattee are apparent. The morale of the membership of the NEMPA is exceptionally high, and the organization is so firmly established that when its leader died (Nov. 6, 1927) no reorganization of plans or of policies took place, but the men whom he had trained continued along the lines which had

been evolved as the result of ten years of working together.—From a review by R. H. Elsworth.

Phillips, Ulrich Bonnell, and Glunt, James David, editors. *Florida plantation records from the papers of George Noble Jones*. (St. Louis: Missouri historical society. 1927.) 596p. (Publications of the Missouri historical society, a consolidation of the Missouri historical society and the Louisiana purchase historical association.)

This book comprises records of two typical large-scale plantations. Contains, besides daily journals for 1847, 1851 and part of 1856, reports of the overseers to the owner, which give a vivid and realistic picture of the daily life of the plantations, the characters of the overseers, the agricultural routine, the treatment of the slaves and the nature of the slave management from 1848 to 1858; some scattered letters and reports for the postbellum period, comprising the years 1868 to 1898, thus revealing some of the contrasts in plantation organization and operation in the two periods, and many other interesting documents. The editors have done much to facilitate the usefulness of the records. A fresh and vivid picture of plantation life.—From a review by L. C. Gray.

Sering, Max. *International price movements and the condition of agriculture in non-tropical countries*. . . . Supplement; Rudolf Lerch. Outline of climate, vegetation and economic conditions in the South African Union and the southwest African Mandate. Tr. by Charles E. Stangeland. (Berlin: Reichdr., 1927.) 134p.

Prof. Sering's work is a comparative presentation of price movements during the past fifty years and of the elements that are involved in the formation of prices. The statistics of prices include not only those of food products but "the important consumption and production goods involved in agriculture." The material is presented both numerically and graphically.

The four chapters of the work take up in turn: (1) the crisis in grain production from 1875-1900, (2) the end of the crisis in grain production, 1900-1914, (3) the international agrarian crisis from 1920 to 1924 and the change of 1924 and (4) the present situation. This last chapter presents in some detail the present situation in Russia, Rumania, the United States, Canada, Argentina, the Australian Commonwealth, New Zealand, and South Africa.

Woodward, Carl Raymond. *The development of agriculture in New Jersey, 1640-1880; a monographic study in agricultural history*. (New Brunswick, N.J. New Jersey agricultural experiment station, Rutgers University, 1927.)

The author in his foreword, states that it has been the purpose of the study "to determine, to describe, and in some degree, to evaluate, the educational influences, both formal and informal, that have affected the development of agriculture in New Jersey." There are valuable appendices which bear mute witness to an enormous amount of painstaking work on the part of the author.

Wright, C. W. B., and Carslaw, R. McG. *The economy of a Norfolk fruit farm, 1923-26.* [Cambridge, Eng., Printed by W. Heffner and Sons, Ltd., 1927] 62p. (University of Cambridge. Department of agriculture. Farm economics branch. Report no. 7)

"The authors of this investigation are not aware of any results of costing fruit on a complete system of accounts having been previously published. After nearly four years' work they have come to the conclusion that this fact is not surprising, for, although they had anticipated difficulties greater than those met with in the costing of arable undertakings, they had not foreseen the full extent of the possible combinations and permutations of complicated factors connected with fruit growing. This statement is put forward in part as an apologia for the absence of any very definite and widely applicable conclusions in the following publication."—From Preface.

CORRECTION: The name of the senior author of the book reviewed on page 453 of the October, 1927, issue (Vol. IX, No. 4) of this JOURNAL was incorrectly stated. The reference is: *The Rural Industries of England and Wales. I. Timber and Underwood Industries*, by Helen E. FitzRandolph and M. Dorrill Hay. (New York: Oxford University Press, American Branch, 1927.)

BOOKS RECEIVED

Lord, Russell, and Delohery, Thomas. *Making Your Own Market.* A handbook of experience. (New York: Macmillan, 1927. Pp. xiii, 99. \$1.25)

Moore, Harry H. *American Medicine and the People's Health.* An outline with statistical data on the organization of medicine in the United States, with special reference to the adjustment of medical service to social and economic change. (New York: D. Appleton Co. 1927. Pp. xxii, 647. \$5.00)

Stapleton, R. G., and Hanley, J. A. *Grass Land, Its Management and Improvement.* (New York: Oxford University Press, Am. Branch, 1927. Pp. 159. \$1.75)

Teele, Ray Palmer. *The Economics of Land Reclamation in the United States.* (New York: A. W. Shaw Publishing Co. 1927)

Thompson, John Giffen. *Urbanization; its effects on government and society.* (New York: E. P. Dutton & Company [1927])

Holmes, Clarence L. *Economics of farm organization and management.* (Boston: D. C. Heath; [1928] Pp. 428)

Oxford. University. Institute for research in agricultural economics. *The rural industries of England and Wales; a survey made on behalf of the agricultural economics*, by Helen E. FitzRandolph and M. Dorrill Hay. *2. Osier-growing and basketry and some rural factories. 3. Decorative crafts and rural potteries.* (Research economics institute, Oxford. Oxford: Clarendon Press. 1926-27; also New York, Am. Br.)

RECENT STATE PUBLICATIONS

Compiled by Mary F. Carpenter, Library, Bureau of Agricultural Economics,
U. S. Department of Agriculture.

ALABAMA

Alabama's marketing policy. (Ala. Polytechnic Institute. Ext. Serv. Circ. 100. 1927.)

This leaflet describes the project of the Alabama Extension Service in co-operation with the Alabama Farm Bureau Federation for marketing farm products in Alabama.

ARKANSAS

Arkansas. Agricultural experiment station. Thirty-ninth annual report. 1927. (Bul. 221. 1927.)

Report for the second fiscal year of research work in rural economics and sociology, p. 11-15.

CALIFORNIA

Abbott, F. H. Standardization and improvement of California butter. (Calif. Agr. Exp. Sta. Bul. 443. 1927.)

California. Dept. of agriculture. Monthly bulletin vol. 16, no. 10, October, 1927.

Partial contents:

C. H. Beasley. Production, standardization and marketing of California apples.—W. A. Sherman. Who makes the market?—L. M. Jeffers. Hay! What is it?—H. D. Greene. Educating the grape packer.—E. E. Kaufman. Summary of October 1 crop conditions.

Condit, I. J. The Kadota fig. (Calif. Agr. Exp. Sta. Bul. 436. 1927.)

This bulletin is devoted to the history and culture of the Kadota fig in California and in Italy. The economic aspects of the industry are discussed.

It contains in addition an article by W. V. Cruess on Kadota fig products, pages 43-45, and a bibliography on page 42.

Erdman, H. E. and Wellman, H. R. Some economic problems involved in the pooling of fruit. (Calif. Agr. Exp. Sta. Bul. 432. 1927.)

Statistical report of California dairy products—1926, and list of California dairy products plants. (Calif. Dept. of Agr. Special publication 71. 1927.)

Weeks, David, and West, C. H. The problem of securing closer relationship between agricultural development and irrigation construction. (Calif. Agr. Exp. Sta. Bul. 435. 1927.)

Written in co-operation with the Federal Land Bank of Berkeley. The authors have discussed the problem under the following headings—Irrigation situation in California; Lag of profitable farming behind irrigation construction; Possible causes of maladjustments; Effect of price changes on cost of farm development and upon repayment of development costs; Over-production; Land qualities materially affect the

rate of development; Policies of irrigation and agricultural development.

Voorhies, E. C. Economic aspects of the dairy industry. (Calif. Agr. Exp. Sta. Bul. 437. 1927.)

One of a series on California crops and prices.

COLORADO

Coen, B. F. Successful farm families of Colorado. Some facts and factors in the success of eighty-five Colorado farm families and the story of ten families. (Col. Agr. College. Bul. Series 26. no. 3. 1927.)

Summers, T. H. and Smith, E. D. An agricultural program for the San Luis Valley of Colorado. (Col. Agr. Col. Ext. Service Bul. 267a. 1927.)

"This bulletin deals with an agricultural economic conference held at Alamosa, Colorado, on February 24 and 25, 1927."

CONNECTICUT

Connecticut. State dept. of agriculture. Second annual report. . . June 30. 1927.

A discussion of the situation of the agricultural industry and of marketing is found on pages 5 to 9.

Lists of officers and financial reports of agricultural societies and associations in the state are also included in this report.

Davis, I. G., Waugh, F. V., and McCarthy, Harold. The Connecticut apple industry. (Storrs Agr. Exp. Sta. Bul. 145. 1927.)

DELAWARE

Tomhave, A. E. and Mumford, C. W. The use of artificial lights on white leghorn pullets to increase winter egg production. (Del. Agr. Exp. Sta. Bul. 151. 1927.)

The authors believe that "artificial illumination aids in making the production curve approach more nearly the price curve during the winter months."

FLORIDA

Turlington, J. E., and Brumley, F. W. Preliminary report on labor and materials required for some Florida crops. . . . Published by the College of Agriculture, University of Florida. (Univ. of Fla. Univ. Record. v. 22, no. 2, 1927.)

GEORGIA

Westbrook, E. C., Minor, W. A., Jr., Traynor, K., Goodrich, C. L. and Funk, W. C. An economic study of farm organization in Sumter County. (Ga. State Col. of Agric. Bul. 324. December, 1927.)

A compilation and interpretation of census data 1889-1924, of three farm business analysis surveys 1913, 1918, and 1924, and of records of the college, of the State Department of Agriculture, of the railroads serving the county and of the railway express company.

IDAHO

Atkeson, F. W., Fourt, D. L., Sulerud, G. L., and Critchfield, B. H. The dairy situation in Idaho. (Idaho. Agr. Exp. Sta. Bul. 152. 1927.)

Part II of the series called "Idaho Agriculture," of which Part I is "Farming business" Part III is "The potato situation in Idaho" and Part IV is "The poultry situation in Idaho."

Idaho, Dept. of Agriculture. Official grades for the standardization of Idaho farm products. 1927-28.

Parkhurst, R. T. and Sulerud, G. L. The poultry situation in Idaho. (Idaho. Agr. Exp. Sta. Bul. 154. 1927.)

Part IV of the series on Idaho agriculture.

ILLINOIS

Illinois. Agricultural experiment station. A year's progress in solving some farm problems in Illinois. Annual report . . . for year ended June 30, 1927.

Includes a report on farm management investigations, 1926-27 (p. 165-195), and results of investigations in marketing and land tenure (pp. 195-204).

INDIANA

Purdue university. Agricultural experiment station. Thirteenth annual report of the creamery license division. . . . March 31, 1927.

Contains annual dairy statistics for 1926 and a list of creameries in Indiana.

IOWA

Iowa. Dept. of agriculture. Twenty-seventh annual Iowa yearbook of agriculture. 1926.

Includes papers on agricultural subjects, two of which are: Why Iowa Farmers Need the McNary-Haugen Bill, by Representative L. J. Dickinson, and The Livestock Marketing and Meat Situation in 1926, by L. M. Carl.

It also contains an account of the operation of the Farm Warehouse Law, reports of farm organizations, and detailed statistical tables of crops.

Mighell, Albert. A study of the organization and management of dairy farms in Northeastern Iowa. (Iowa. Agr. Exp. Sta. Bul. 243. 1927.)

"This bulletin presents a business analysis of 239 farms in Bremer and Fayette Counties. . . . The field study was made during the summer of 1924 and covered the farm business of the year ending February 29, 1924."

Murray, W. G. and Garlock, F. L. Farm mortgage debt in Iowa. (Iowa Agr. Exp. Sta. Current Econ. Ser. Rept. 6. 1927.)

Certain townships were selected for this study "which were representative of different soil and climatic conditions, including also both high and low priced land as well as different types of farming. . . . The

effort was to get a complete mortgage history of all the farm land in these townships for the years covering the boom and depression, 1915 to 1925."

Robotka, Frank. Financial records for country creameries. (*Iowa. Agr. Exp. Sta. Circ.* 106. 1927.)

"The system described . . . is the result of experimentation under actual operating conditions in Iowa and of the writer's intimate contact with creamery problems extending over a period of years."

KANSAS

Green, R. M. Effects of shortage of farm storage space and inability to get local bank credit on the movement of Kansas wheat to market.

(*Kansas. Agr. Exp. Sta. Bul.* 244. 1927.)

Kansas. State board of agriculture. Report . . . December, 1926, devoted to Kansas statistics.

Includes besides agricultural statistics for 1926, a table showing quantities and values of various crops from 1907 to 1926.

MAINE

Jones, M. D. Methods used in growing peas for canning in Maine and the problems connected with their economical production. (*Univ. of Maine. The Maine bulletin*, v. 39, no. 13, 1927.)

MICHIGAN

Michigan. Agricultural experiment station. Quarterly bulletin, v. 10, no. 2, Nov., 1927.

Farm management study in the corn borer area: p. 41-45.

Teske, A. H. and Gardner, V. R. Management methods in the raspberry plantation. (*Mich. Agr. Exp. Sta. Bul.* 165. 1927.)

MINNESOTA

Price, H. B. and Sprague, G. W. Co-operative egg and poultry assembling units in Minnesota. (*Minn. Agr. Exp. Sta. Special bul.* 233. 1927.)

Emphasis has been put on costs of operation and on quality of eggs marketed.

Waite, W. C. and Rowe, H. B. Retail margins in marketing home-grown fruits and vegetables in St. Paul, 1925. (*Minn. Agr. Exp. Sta. Bul.* 236. 1927.)

The method used in computing gross margins in this study was that of "comparing the prices at which commodities are actually bought and sold by the retailers."

Zimmerman, C. C. and Black, J. D. How Minnesota farm family incomes are spent. An interpretation of a one year's study, 1924-1925. (*Minn. Agr. Exp. Sta. Bul.* 234. 1927.)

The beginning of a series of rural life studies.

MISSISSIPPI

Long, L. E. and Reynolds, H. W. Progress report on cost of production route in Choctaw county, Mississippi, 1926. (*Miss. Agr. Exp. Sta. Bul.* 243. 1927.)

"This is the third annual report on this study. Data for the calendar years 1924 and 1925 are contained in bulletins 228 and 237 respectively."

MISSOURI

Garlock, H. M. Factors in beef production. (Mo. Univ. Col. of Agr. Ext. Service. Circ. 189. 1927.)

The purpose of this eight page bulletin was "to discuss some studies of feeding experiments and market information with the view of answering questions asked by many feeders."

Garlock, H. M. and Burch, J. W. Producing and feeding beef calves. (Mo. Univ. Col. of Agr. Ext. Serv. Circ. 186. 1927.)

This has some data on cost of production.

Land valuation. (Mo. Agr. Sta. Bul. 255. 1927.)

Consists of a series of papers which are abstracts of lectures and addresses delivered at the first short course in Land Valuation at the University of Missouri, College of Agriculture, last summer.

Missouri. Agricultural experiment station. Solving farm problems by research... Report of the Director, July 1, 1926 to June 30, 1927. (Bul. 256. 1927.)

Projects in agricultural economics, p. 33-40; in rural sociology, p. 85-86.

Thomsen, F. L. and Thorne, G. B. Co-operative marketing for Missouri. (Mo. Agr. Exp. Sta. Bul. 253. 1927.)

"The particular conditions in Missouri have been studied with reference to the most practical application of established co-operative principles."

MONTANA

Bell, E. J., Jr. Larger markets for Montana wheat. (Mont. Agr. Exp. Sta. Circ. 135. 1927.)

NEBRASKA

Nebraska. Dept. of agriculture. Nebraska agricultural statistics. 1926. In co-operation with U. S. Dept. of agriculture, Division of crop and livestock estimates.

NEW HAMPSHIRE

Woodworth, H. C. Nute Ridge. The problem of a typical back-town community. (N.H. University. Ext. Service. Circ. 68. 1927.)

The author has made a study of this region which has deteriorated commercially and he makes suggestions as to how it might again become a prosperous farm community.

NEW JERSEY

Jones, A. E. New Jersey plan of poultry standardization and accreditation, 1927-1928, adapted from the proposed national uniform plan. (N.J. Dept. Agr. Circ. 114. 1927.)

Lynn, W. C. and Oley, W.W. Standardization as an aid to better marketing in New Jersey. (N.J. Dept. of Agr. Circ. 128. 1927.)

Related chiefly to methods of packing and loading apples, peaches, potatoes, and tomatoes for shipping purposes.

Martin, W. H., Waller, A. G. and Weiss, H. B. The potato industry in New Jersey. (N.J. Agr. Exp. Sta. Bul. 454. 1927.)

"This bulletin on the New Jersey white potato industry is the result of an effort to formulate an agricultural policy and program for New Jersey."

New Jersey. Dept of agriculture Circulars 117 to 126 1927.

A series in which each circular covers an agricultural commodity giving its acreage, yield, production, carlot shipments, receipts, and average price paid to growers, in New Jersey and competing states for the years 1922 to 1926 inclusive. The commodities covered are tomatoes, lettuce, spinach, celery, onions, sweet potatoes, string or snap beans, asparagus, cucumbers, and cantaloupes.

Oley, R. C. and Fenton J. M. The packing industry in New Jersey including a study of the tomato canning situation. (N.J. Dept. of agr. Circ. 107. 1927.)

Results of surveys as to the total pack put up each year, prices paid to farmers, contracted acreages and open-market prices of fruits and vegetables.

Oley, R. C. The status of rural electrification in New Jersey. (N.J. Dept. Agr. Circ. 112. 1927.)

Results of a survey begun during the summer of 1926.

Oley, R. C. Varieties of peaches in competing states, their ages, and trends of popularity in percentages; also varieties of apples and peaches in principal New Jersey counties. (N.J. Dept. Agr. Circ. 110. 1927.)

Requirements and rules for the inspection and certification of New Jersey second-crop seed potatoes. . . . 1927. (N.J. Dept. Agr. Circ. 113. 1927.)

Waller, A. G. and Weiss, H. B. The peach industry in New Jersey. A statistical and economic study. (N.J. Agr. Exp. Sta. Bul. 452. 1927.)

Woodward, C. R. Development of agriculture in New Jersey, 1640-1880. (N.J. Agr. Exp. Sta. Bul. 451. 1927.)

NEW YORK

Clark, A. W. Composition and cost of commercial feeding stuffs in 1926. (N.Y. Agr. Exp. Sta. Bul. 545. 1927.)

New York state retail grades and standards for eggs with rules and regulations. (N.Y. Dept. Agr. and Mkts. Circ. 345. 1927.)

Statistics relative to the dairy industry in New York state (N.Y. Dept. Agr. and Mkts. Bul. 202. 1927.)

Van Wagener, Jared, Jr. The golden age of homespun. (N.Y. Dept. Agr. and Mkts. Agr. Bul. 203. 1927.)

The author says in the introduction "We had in New York State a full century ago an agricultural civilization which however wanting it may have been, nevertheless seemed good and satisfying to the men and women of that time. I have tried to here preserve—before the

memory and traditions wholly perish—the farm life, the household handicrafts and the rural occupations of that bygone era."

NORTH DAKOTA

Willard, R. R. and Fuller, O. M. Type of farming areas in North Dakota. (N.D. Agr. Exp. Sta. Bul. 212. 1927.)

This is a bulletin of 269 pages with index and many charts and tables.

OHIO

Cray, R. E. and Zumbro, P. B. Analysis of poultry profits in Ohio, 1926. (Ohio. State Univ. Agr. Col. Ext. Serv. Bul. 60. 1927.)

A summary of results secured from 543 Ohio farms.

Henning, G. F. Market movements of livestock in Ohio. (Ohio. Agr. Exp. Sta. Bul. 409. 1927.)

Information has been secured and brought together in this bulletin regarding the disposition and slaughtering of livestock produced in Ohio and "certain production factors concerning livestock producers . . . as they may be of general interest to livestock farmers."

Lively, C. E. and Beck, P. G. The rural health facilities of Ross county, Ohio. (Ohio Agr. Exp. Sta. Bul. 412. 1927.)

Ohio. Agricultural experiment station. Bimonthly bulletin. November-December, 1927, vol. 12, no. 6.

Partial contents:

J. I. Falconer. Land utilization in Ohio.—C. W. Hauck. Competition with apples in Ohio markets.—V. R. Wertz. A comparison of Ohio and New York egg prices.

Ohio. Agricultural experiment station. Bi-monthly bulletin, January-February, 1928, vol. 8, no. 1.

Partial contents:

P. G. Beck. The distribution of population by age groups on farms, in villages, and in cities in Ohio.—J. F. Dowler. The distance walked in the feeding and care of livestock.—H. R. Moore. Index numbers of farm taxes in Ohio.—J. I. Falconer. Index numbers of production, wages and prices.

OKLAHOMA

Ellsworth, J. O. and Baird, R. W. The combine harvester on Oklahoma farms. 1926. (Okl. Agr. Exp. Sta. Bul. 162. 1927.)

Speakers' summary for Oklahoma cotton acreage reduction campaign. (Okl. Agr. and Mech. Col. Ext. Div. Circ. 235. 1927.)

OREGON

Investigations on the harvesting and handling of Bose pears from the Rogue River Valley. (Ore. Agr. Exp. Sta. Bul. 228. 1927.)

Lindgren, H. A. and Potter, E. L. Cattle marketing investigations at Portland, Oregon. (Ore. Agr. Exp. Sta. Bul. 229. 1927.)

Northwest dried prune convention, Corvallis, Ore. Report 1st-2nd. May 31, 1927-July 9, 1927. Corvallis, Ore., 1927.

Issued by the Extension Service, Oregon Agricultural College.

Wiegand, E. H. Walnut drying and packing in Oregon. (Ore. Agr. Exp. Sta. Bul. 227. 1927.)

PENNSYLVANIA

Pennsylvania. Agricultural experiment station. Fortieth annual report. . . . June 30, 1927.

Projects in agricultural economics reported upon, p. 7-10, include a taxation study, survey of organizations affecting farm youth, marketing of poultry products, economics of the apple industry, survey of hay production, efficiency of labor on the farm, farm tenancy and forms of leases and contracts, and milk marketing.

Rules and regulations establishing standard grades for farm products in Pennsylvania. (Pa. Dept. of Agr. Gen. Bul. 450. 1927.)

RHODE ISLAND

Corbett, R. B. Receipts of food by rail and water in Providence, Rhode Island. (R.I. Agr. Exp. Sta. Bul. 211. 1927.)

This is a preliminary report giving a summary of the data which were obtained for the years 1921 to 1925, inclusive. Receipts by boat were found only for 1921, 1923 and 1925.

SOUTH CAROLINA

South Carolina. Dept. of agriculture, commerce and industries and Clemson College. South Carolina, a handbook. 1927.

SOUTH DAKOTA

Bonnen, C. A. and Hutson, J. B. Profitable farming systems for East Central South Dakota. (S.D. Agr. Exp. Sta. Bul. 226. 1927.)

TEXAS

Cory, V. L. Activities of livestock on the range. (Tex. Agr. Exp. Sta. Bul. 347. 1927.)

"A report of monthly observations . . . for the three years of 1924, 1925, and 1926." Information was obtained "concerning the behavior of livestock on the range, their requirements, and their preferences for range forage under the conditions obtaining in general on the Edwards Plateau of Texas."

Texas Agricultural and mechanical college. Extension service. Annual report. 1926.

This has a section on farmers' co-operative buying and selling (p. 12-14) which includes a table showing value of commodities bought and sold and profits during 1926 as reported by county agricultural agents.

The statement is made in the report that these figures are in no wise complete.

Reynolds, E. B. and Killough, D. T. Crop rotation in the Blackland region of central Texas. (Tex. Agr. Exp. Sta. Bul. 365. 1927.)

Contains figures on the total cost of production and gross returns per acre of the crops in the different cropping systems, page 18.

Seymour, L. A. and Hunter, J. A. Growing and marketing Texas vegetables. (Tex. Dept. of Agr. Bul. 88. 1927.)

Thirteen vegetables are treated in this illustrated bulletin which also includes several pages on watermelons.

VIRGINIA

Langsford, E. L. and Hutson, J. B. Systems of beef cattle farming for southwestern Virginia. (Va. Agr. Exp. Sta. Bul. 258. 1927.)

"Systems of farming and methods of handling cattle believed to be more profitable than those usually followed in southwestern Virginia are presented in this bulletin."

Vernon, J. J., Holdaway, C. W., Ezekiel, M. and Kifer, R. S. Factors affecting returns from the dairy enterprise in the Shenandoah Valley. (Va. Agr. Exp. Sta. Bul. 257. 1927.)

"The conclusions presented in this bulletin are based upon records of the operation of 287 farms in Augusta and Rockingham Counties, covering their operations for the farm year, from May 1, 1924, to April 30, 1925."

WASHINGTON

Fredell, G. H. Carlot distribution of Washington apples. (Wash. Agr. Exp. Sta. Bul. 218. 1927.)

Turner, R. M. Facts about egg prices. (Wash. State Col. Ext. Service. Circ. 15. 1927.)

WISCONSIN

Ezekiel, M. J. B., McNall, P. E. and Morrison, F. B. Practices responsible for variations in physical requirements and economic costs of milk production on Wisconsin dairy farms. (Wis. Agr. Exp. Sta. Research Bul. 79. 1927.)

"The data used in this study were obtained from dairy farmers in Southeastern Wisconsin and represented the methods used in milk production under the actual farm conditions of this area."

Montgomery, D. E. Co-operative oil marketing in Wisconsin and Minnesota. (Wis. Dept. of Markets. Bul. v. 8, no. 4. 1927.)

Pomerening, A. W. and Adams, C. D. Standard grades for Wisconsin honey. (Wis. State Dept. of Markets. Bul. v. 8, no. 2. 1927.)

Pulley, C. N., Kirsch, Wm. and Pulley, F. H. Tobacco marketing in Wisconsin. (Wis. State Dept. of Markets. Bul. v. 8, no. 5. 1927.)

Wisconsin standards for grading, packing and certification of potatoes. (Wis. State Dept. of Markets. Bul. v. 8, no. 3. 1927.)

Publications from the Bureau of Agricultural Economics¹

Issued October 19, 1927, to January 14, 1928

TECHNICAL BULLETINS

- 23 Costs and Methods of fattening beef cattle in the Corn Belt, 1919-1923, by R. H. Wilcox, R. D. Jennings, G. W. Collier, W. H. Black, and E. W. McComas.

The data were gathered in five States over a period of five years. This synthesis involved a great deal of pains-taking work. Besides the summary tables and conclusions of the authors, tables are drawn up to show the details by States and by years, class of cattle fed and type of ration, with physical quantities as well as current valuations, and many derived figures.

- 46 Flour for pretzels, by J. H. Shollenberger and W. K. Marshall.

"It is an established fact that some of the differences in the quality of baked products are due to differences in the quality of the flour used." The implications are of greater significance to the general reader than the specific results shown. The Bureau or others will probably extend the method to other products.

- 54 Factors influencing the yield of apples in the Cumberland-Shenandoah Region of Pennsylvania, Virginia, and West Virginia, by C. R. Swinson, F. P. Weaver, A. J. Dadisman, J. J. Vernon, H. P. Gould, and J. B. Kincer.

"... a survey . . . of the extent of crop failures or low yields and the reasons." Six years were covered, and locality and variety differences noted.

CIRCULARS

- 4 Settlers' progress in dry-land farming in eastern New Mexico, by E. O. Wooton.

The study was made in Curry and Roosevelt Counties. "These two counties were selected as constituting the most thoroughly established dry-farming area of the State, and in the belief that accurate summarized information about the experience of farmers in these counties would be valuable to the farmers of this area and to farmers in other dry-land areas of the State which have not been crop farmed for as long a time." The analysis will be of interest to farm management workers generally. From the conclusions—" . . . Most of the men were satisfied with their locations and did not want to leave. . . . Seventy per cent of the farmers in Curry County and 80 per cent of those in Roosevelt County have made increases in their net worth, without taking into consideration the very real increase, . . . of the value of their land. . . . The data here given are those furnished by men who succeeded in remaining."

¹Mimeographed preliminary reports and periodicals are not listed on account of the limited number of copies available for distribution. Notes by S. W. Mendum.

- 8 National standards for farm products, by Lloyd S. Tenny.

After some general comments on the development of national standards and the advantages of a common language and of grading the author gives "the outstanding points of interest in the development of Federal standards for the various commodities." Details are to be found in many publications.

- 15 The farm real estate situation, by E. H. Wiecking.

Contains an index number series of estimated value per acre, by geographic divisions and States, 1912-1927, recently computed, analyses of census and other data related to the problem of farm real estate values, and a report on changes in farm ownership.

FARMERS' BULLETINS

- 1545 Dry-farming methods and practices in wheat growing in the Columbia and Snake River Basins, by Byron Hunter.

"Its purpose is to show the possibility of increasing crop yields in the dry-farming areas by using improved methods and to discuss the practices which have been found most advantageous."

- 1546 Systems of livestock farming in the black prairie belt of Alabama and Mississippi, by M. A. Crosby and R. D. Jennings.

"The black prairie belt of Alabama and Mississippi is in a period of uncertainty as to the best kind of farming to carry on. Low prices for cotton, continued bollweevil damage, and the spread of Bermuda and Johnson grasses have made cotton production extremely hazardous. . . . Systems of farming in which dairying and beef production, the principal livestock enterprises, and early-lamb production, the secondary livestock enterprise, are combined with the production of Johnson grass hay and a limited amount of cotton, are outlined in this bulletin."

MISCELLANEOUS PUBLICATION

- 10 The establishment of standard grades for American cotton linters, by Guy S. Meloy.

"A brief review is here given of American cotton linters and of the movement leading to the establishment of standard grades for the commodity under the authority of the cotton standards act."

THE EIGHTEENTH ANNUAL MEETING

The Eighteenth Annual Meeting of the American Farm Economic Association was held in Washington, D.C., at the Hotel Washington, December 28-30, 1927.

The first session of the Association convened at 10:00 A.M. on December 28, and was a joint session with the American Economic Association.

The annual business meeting was held at the beginning of the afternoon session on the same day. The meeting was called to order by President J. I. Falconer. The report of the Secretary-Treasurer was read and approved. The report of the Editor of the *JOURNAL OF FARM ECONOMICS*, Mr. H. R. Tolley, was read and accepted with the exception of recommendations for increased expenditures. These recommendations were referred to a committee for report at the next business session. The report of the corn borer committee was read by the Chairman, C. R. Arnold, and adopted. H. C. Taylor presented a brief verbal report for the committee on research which indicated that this committee had been coöperating with a similar committee of the Social Science Research Council. The following committees were appointed by the President.

Nomination: W. E. Grimes, E. G. Nourse, and O. G. Lloyd.

Audit: O. M. Johnson, W. D. Nicholls, and A. Leitch.

Resolutions: L. G. Foster, J. T. Horner, and F. P. Weaver.

General Committee on Financial Recommendations: H. C. Taylor, G. F. Warren, and E. G. Nourse.

Committee on the Enlargement of the Executive Committee: B. H. Hibbard, A. E. Cance, and L. C. Gray.

The program was then carried out as planned. The second business meeting was held on Friday, December 30, immediately preceding the annual luncheon of the Association. The report of the auditing committee certifying as to the accuracy of the accounts of the Association was read and approved. The report of the resolutions committee was read and adopted. The report of the finance committee was read and adopted. This report provided that reprints were to be furnished to authors of all special

articles free of charge up to 100 copies when desired, but that no payment for articles or book reviews be made at this time. The committee also recommended that the expenses incurred by the Secretary and by the Editor or the Assistant Editor in attending the annual meetings of the Association be defrayed by the Association. The report of the committee on the executive committee was read and approved. It provided for the enlargement of the executive committee by the two immediate past Presidents of the Association in addition to the active officers of the Association. The report of the committee on nominations was read and approved. In accordance with a motion, the Secretary cast one ballot for the election of officers of the Association for the year 1928:

L. C. Gray, President

M. R. Benedict, Vice-President

W. I. Myers, Secretary-Treasurer

Attendance—

December 28,	morning	300
	afternoon	175
	evening	150
December 29,	morning	250
	joint luncheon with Rural Sociology	200
	afternoon	100
	evening	150
December 30,	morning	75
	annual luncheon	130
	afternoon	125

At a meeting of the executive committee, it was decided to award the contract for printing the JOURNAL for the ensuing year to the George Banta Publishing Company, Menasha, Wisconsin. The bid of this company was appreciably better than other bids received by the committee.

The reports of the Secretary-Treasurer, of the Editor and of committees are appended.

W. I. MYERS, *Secretary*

*Report of the Secretary-Treasurer**Financial Statement, Year 1927***Receipts:**

Cash on hand January 1, 1927	\$ 424.91
Life membership	50.00
Interest	\$ 1.25
Advertising	25.00
Reprints	15.00
Back volumes	160.60

Dues:

Active members	3,083.69
Associate	240.00
 Total dues	 3,323.69
 Total current receipts	 3,525.54
 Total	 \$4,000.45

Paid out:

Printing Journal, 4 issues	\$2,283.27
Miscellaneous printing	72.06
Expenses 1926 meeting	12.34
Postage and envelopes	94.04
Back numbers purchased	22.70
Miscellaneous expenses	12.49
 Total expenses	 \$2,496.90
Balance on hand, December 28, 1927	\$1,503.55
 Bank balance	 \$4,000.45

Unpaid bills

October issue	\$ 380.31
 Membership	
Checking account	\$ 503.55
Interest account	1,000.00

1,503.55

For the first time, active membership was on a \$5 basis. During 1926,**memberships paid up prior to December 26, 1925, at the \$3 rate were allowed.****On December 28, 1927, there were**

Active members	644
Associate members	131
 Total	 775

This is a decrease of 47 from December 26, 1926, accounted for as follows:

Dropped out

Active	111
Associate	35
	Total 146

New members

Active	76
Associate	20
	Total 96

An increasing number of libraries are numbered among the membership.

Demands of libraries for back numbers in order to complete their files are increasing and the supply of issues prior to 1927 is practically exhausted. In order to maintain larger reserves of the JOURNAL for such needs, 1,100 copies of the January issue were printed and 1,000 copies of the succeeding issues.

Copies of the following issues are needed:

- No. 1, January 1923
- No. 1, January 1924
- No. 1, January 1925
- No. 2, April 1926
- All of 1922 or earlier

Income

The association had a net balance of \$1,123.24 on December 26, 1927, after paying for the October, 1927, issue as compared with \$99.72 on December 23, 1926. The improved financial position is due, mainly, to the increase in membership dues and to sales of back numbers of the JOURNAL to libraries. In part, it represents an increase in prepaid dues for 1928, since \$443 has been received from that source.

Signed:

W. I. MYERS
Secretary-Treasurer

Report of the Auditing Committee

Your auditing committee has examined the accounts of the Secretary-Treasurer of this Association and finds them correct.

Signed:

O. M. JOHNSON
W. D. NICHOLLS
A. LEITCH

Report of the Editor

The JOURNAL OF FARM ECONOMICS for 1927 (Vol. IX) was issued in four numbers containing 463 pages of editorial matter and an index. The number of copies was 1,100 for the January number and 1,000 for each of the three subsequent numbers. The cost of publication, including mailing, was \$2,238.89 or \$2.22 per set of four numbers. Original mailing cost somewhat more than 5 cents per set. A reserve supply was printed to take care of new subscriptions and requests for back numbers.

The 1927 JOURNAL was divided as follows:

	No.	Pages used
Articles: Annual Meeting papers.....	14	181
Special contributions	14	167
Reports of Committees (includes Thesis list).....		31
Book reviews	20	36
State and Federal Publication lists.....		26
Notes		22
Miscellaneous		8

A 500 page volume was planned at the beginning of the year. The October number was smaller than planned however because of the dearth of copy suitable for publication, and the reduction in total pages for the volume may be attributed largely to lack of copy. A few articles were however returned to authors, and several were printed only after revision by authors and editors.

A part of the lack of copy for the JOURNAL was associated with the policy of the editor not to encourage the staff of the Bureau of Agricultural Economics to prepare articles for the JOURNAL, lest undue space appear to be devoted to Bureau enterprises. How well he succeeded in leaving the field clear for men in the States is indicated by the fact that of the 28 main items only six were contributions from the Bureau. Of the 20 book reviews, 10 were by Bureau men, and several books await review rather than use Bureau reviews in greater number.

It was decided to abandon for 1927 all effort to cover personal news, and the "notes" after January were confined to announcements of meetings, etc.

Publication of the JOURNAL has not been regular or prompt this year. The editors did the best they could with the materials at hand. The assignment was a surprise and took the two Washington members at the worst possible time ("Outlook" preparation time). Copy was late, voluminous, and not in too good shape for the printer. Change of publisher was contemplated but decided against. The difficulty has not been entirely with the publishing company but the editor is now satisfied that a change of publishing house should be made beginning with the January issue.

Printing bills passed for payment permit the following basic details to be shown:

COST OF JOURNAL

Cost of 1,000 sets in 4 numbers.

Basic cost (stock, press work, binding, and composition if all 10 pt. straight).....	\$1,693.22
Total cost of 100 extra January copies.....	20.00

\$1,713.22

Composition additional, more work, special fonts, etc....	\$ 266.75
Alterations of copy and proofs mostly hand work.....	120.25
7 line engravings	27.21
<hr/>	<hr/>
Total cost of production	\$2,127.43
Furnishing and addressing and printing wrappers for copies mailed for us.....	\$ 56.97
Second-class publishers' postage	42.38
Parcel post shipment of stock to Secretary.....	12.11
<hr/>	<hr/>
Total prime cost of distribution.....	\$ 111.46
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Total	\$2,238.89

A considerable amount of time has been spent in considering the proposals of other companies and after a careful study of competitive bids, the Editor recommends that the contract for printing the 1928 JOURNAL be given to the Banta Publishing Company of Menasha, Wisconsin.

The following suggestions are made for the consideration of the Association:

- (1) Furnish 50 reprints free to each contributor of major articles. The cost to the Association would be something like \$150 per year.
- (2) Pay writers of book reviews which are accepted for publication at a rate of something like \$5 per review depending upon the character of the book and the nature of the review. This would cost the Association \$100 to \$150 per year.
- (3) Pay an honorarium to contributors of special articles.

The editor believes that the adoption of these suggestions would bring more and better articles of the kind that should be published in the JOURNAL.

In closing, I wish to express my indebtedness to Mr. Mendum, who in the capacity of an Associate Editor, has done a large part of the work of reading manuscripts, preparing copy for the printer and handling proofs.

H. R. TOLLEY, *Editor*

Report of the Committee on Resolutions

WHEREAS: Any increase in the cultivated farm area at this time, or even a reduction of the rate of abandoning marginal land before supply, demand, and price adjustment has been reached is undesirable and is a detriment to all agricultural producers:

Therefore, RESOLVED: That this Association convey its judgment on these matters to the Secretary of the Interior and to the Director of Reclamation with reference to their continued efforts to reclaim land through large-scale drainage and irrigation operations, which should be held in abeyance until such time as the incomes of farmers are on a par with the incomes of those in other occupations.

BE IT RESOLVED: That the Farm Economic Association in session assembled, do extend a vote of hearty appreciation and thanks

1. To the officers, committees and all those concerned with the planning and execution of this most excellent series of meetings, for their untiring efforts and notable success in achieving the same, and

2. To the management of the Washington Hotel for its hospitality, courtesy and service which have contributed much to the success and enjoyment of this conference.

Report of the Committee on Financial Policy

The committee on the financial policy regarding the JOURNAL and the secretaryship submits the following report:

1. That reprints be furnished authors free of charge up to 100 copies when desired, but no payment for articles or book reviews is recommended at this time.
2. While the committee is not ready to recommend compensation in the form of a stipend for either the editor or the secretary, it does recommend that the expenses incurred by the secretary and by the editor or the assistant editor in attending the annual meeting of the association be defrayed by the association.

GRADUATE FELLOWSHIPS IN AGRICULTURAL ECONOMICS AND RURAL SOCIOLOGY

Readers of the JOURNAL will doubtless recall that an Advisory Committee on Social and Economic Research in Agriculture was appointed by the Social Science Research Council some two years ago and that it conducted last year a survey of research in the field of agricultural economics and rural sociology. As a result of the Committee's study of the situation, they recommended to the Problems and Policy Committee of the Council that a group of research fellowships be established which would assist promising students in these fields to complete, or at least to advance, their training, with a view to improving the quality of the research staffs in our agricultural experiment stations and elsewhere.

The Problems and Policy Committee acted favorably on this recommendation, and the Council itself approved the project. This action contemplates the raising of a fund of \$30,000 yearly for the next five years to be devoted to these fellowships, and it was confidently expected that the funds would be actually provided at a date early enough to permit definite announcement in this issue of the JOURNAL. Unfortunately, there has been some delay in making this financial provision, but in view of the lateness of the time it seems unwise to miss this opportunity of calling the matter to the attention of our readers.

The fellowships will be open to both men and women and are designed primarily for persons who have had at least one year of graduate work. They will pay not less than \$500 nor more than \$2,500, unless very exceptional circumstances seem to justify a larger amount. The Committee will pass upon each case on its merits, and it is expected that the stipend for the majority of appointments will range between \$1,200 to \$1,500. The Committee designated to administer the fund consists of J. S. Davis, Food Research Institute; Frank A. Fetter, Princeton University; C. J. Galpin, United States Bureau of Agricultural Economics; E. G. Nourse, *Chairman*, Institute of Economics; W. J. Spillman, United States Bureau of Agricultural Economics; and Henry A. Wallace, *Wallace's Farmer*.

When, and if, word is received by this Committee that funds are available, formal announcements of the conditions under which fellowships will be awarded and the necessary application blanks will be distributed to colleges, universities, and experiment stations over the country. Persons interested may secure information from such sources after March 1.

E. G. Nourse

Agricultural History

The Agricultural History Society has issued two numbers of its quarterly journal entitled *Agricultural History*. The first of these, dated January, 1927, contained an article by E. Merton Coulter entitled "The Movement for Agricultural Reorganization in the Cotton South during the Civil War, and the second dated July, 1927, contains "Some Historical Relations of Agriculture in the West Indies to that of the United States," by Dr. C. A. Brown, and "Egyptian Agricultural Labor under Ptolemy Philadelphus," by William Linn Westermann. *Agricultural History*, although planned as a quarterly, was issued only twice in 1927. Dr. O. C. Stine is editor.

BACK NUMBERS OF JOURNAL WANTED

The Association finds it impossible to meet the requests of Libraries for complete files of the back numbers of the JOURNAL because the supply of many issues is exhausted. The following issues are needed and the Secretary-Treasurer will be glad to purchase them at the prices designated. If you are willing to give up any or all of these issues, please communicate with W. I. Myers, Cornell University, Ithaca, N.Y.

Volume VIII	(1926) No. 2	@ \$1.25
Volume VII	(1925) Nos. 1, 2, and 4 @ .75	each
Volume VI	(1924) Nos. 1 and 3 .. @ .50	each
Volume V	(1923) Nos. 1 and 2 .. @ .50	each
Volumes I to IV (1919-22)	All issues	@ .50 each